City of Salford.

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE YEAR

1931.

BY

H. OSBORNE,

MEDICAL OFFICER OF HEALTH.

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1931-1932.

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Alderman JACKSON, J.P., Mayor, *Deputy-Chairman.*

Councillor FINBURGH, J.P. (*Deputy-Mayor*)
,, BINNS.
,, BUCK.
,, CONNOLLY, J.P.
,, CUTTIFORD.
,, DULBERG.
,, FEARNEHOUGH.
,, HAMPSON.

Councillor HAYNES.
,, HIGGINBOTTOM.
,, KITCHIN.
,, NUTTALL.
,, SMITH, G. W.
,, WEBB, J. A., J.P.
,, WEBB, L.
,, WEIR.

Also co-opted for Housing Purposes :—

Mrs. BERRY	Representing the Pendleton Co-operative Industrial Society Limited.
Mrs. CUDDEFORD, J.P. ...	A member of the Maternity and Child Welfare Sub-Committee.
Miss D. L. PILKINGTON ..	Representing the Manchester and Salford Women Citizens' Association.

The following members were co-opted upon the undermentioned Sub-Committees, viz. :—

Tuberculosis Sub-Committee—Mr. W. BRICE and Mr. O. A. BUCK, representing the Salford Insurance Committee.

Maternity and Child Welfare Sub-Committee—Mrs. J. GOODIER HAWORTH, J.P., representing the Ladies' Public Health Society ; Mrs. PILKINGTON, representing the Manchester and Salford Women Citizens' Association ; and Mrs. CUDDEFORD, J.P., representing the Women's Guild of the Pendleton Co-operative Industrial Society Limited.

STAFF.

Public Health Department.

Medical Officer of Health Administrative Tuberculosis Officer	H. Osborne, M.D., M.R.C.S., D.P.H., etc.
Honorary Consulting Medical Officer	C. H. Tattersall, M.R.C.S., L.R.C.P., D.P.H.
Clinical Tuberculosis Officers	E. N. Ramsbottom, M.A., B.Sc., M.D. (Lond.), D.P.H., etc. J. G. McKinlay, M.B., Ch.B., D.P.H.
Maternity and Child Welfare Medical Officers	M. Sproul, M.B., Ch.B., D.P.H. K. D. Arnsby, M.B., B.S. J. C. King, M.B., Ch.B., D.P.H.
Consulting Obstetrician	W. R. Addis, M.C., M.B., Ch.B.
City Pathologist	G. J. Crawford, B.Sc., M.D., M.R.C.P. (Lond.), D.P.H.
Venereal Diseases Medical Officer	E. Tytler Burke, D.S.O., M.B., Ch.B.
Deputy Venereal Diseases Medical Officer	F. W. F. Purcell, M.R.C.S., L.R.C.P.
Asst. Venereal Diseases Medical Officers	F. M. Blades, M.B., Ch.B. R. Marinkovitch, M.B., Ch.B.

*HOPE HOSPITAL.

Medical Superintendent	J. D. Giles, O.B.E., M.D.
Assistant Medical Superintendent	J. Stuart Smith, M.B., D.P.H.
Anæsthetist, Lecturer and Radiologist	J. Ghosh, F.R.C.S., D.P.H.
Visiting Physician	G. J. Langley, M.D. (Lond.), M.B., M.R.C.P.
Visiting Specialist in Children's Diseases	Catherine Chisholm, B.A., M.D.
Visiting Gynæcologist	John W. A. Hunter, M.B., Ch.B.
Consulting Orthopædic Surgeon	S. M. Milner, M.A., M.B.
Resident Medical Officer	S. Alstead, M.D., M.R.C.S., L.R.C.P.
Resident Surgical Officer	G. Brown, M.B., Ch.B., F.R.C.S.

LADYWELL SANATORIUM.

Medical Superintendent	W. Edge, M.R.C.S., L.R.C.P., D.P.H.
Assistant Resident Medical Officer	J. T. C. Keddie, M.B., B.S.

NAB TOP SANATORIUM.

Medical Superintendent	H. M. Fleming, B.A., M.D., D.P.H.

Veterinary Inspector	A. Alexander, M.R.C.V.S., D.V.S.M.
Public Analyst	H. E. Monk, B.Sc., F.I.C.
Chief Administrative Assistant	E. Wood.
Chief Sanitary Inspector	J. P. Cargill, M.R.S.I.

* Poor Law Hospital administered by Health Committee subject to general direction and control of Public Assistance Committee.

To the Health Committee of the City of Salford.

Gentlemen,

I have the honour to present my report on the health of the city and the work of the Public Health Department for the year 1931.

Death Rate.

The death rate for the year was 14·2 per thousand of the population, this being an increase of ·9 per thousand as compared with the rate for 1930. Although there was an increase of 142 in the actual number of deaths, the increase in the rate is also accounted for, to a certain extent, by the fact that the rate for 1930 was calculated by reference to the Registrar General's estimate of 230,100 as the population of the city at the middle of that year, whereas the rate for 1931 was based upon the 1931 Census figure, namely 223,442.

Birth Rate.

The number of births which occurred in Salford during 1931 was 3,479, a reduction of 308 compared with 1930. This fact, combined with the alteration in the figures of population referred to in the foregoing paragraph, brought about a reduction in the birth rate from 16·5 to 15·4 per thousand of the population. This is easily the lowest birth rate on record for Salford. The following table shows the actual number of births which occurred in Salford during each of the last ten years, along with the reduction in the number of births in each year compared with the preceding year:—

Year.	No. of Births.	Reduction as compared with preceding year.
1922	5,416	577
1923	5,047	369
1924	4,745	302
1925	4,597	148
1926	4,511	86
1927	4,301	210
1928	4,073	227
1929	3,903	170
1930	3,787	116
1931	3,479	308

Tuberculosis.

The death rate from phthisis for the year 1931 was 1·2 per thousand of the population. This rate has now been maintained for four consecutive years, and is evidence of the gradual, if slow, progress which is being made throughout the country in gaining control of this disease. The valuable information afforded by the use of the new X-Ray apparatus is referred to in the body of the report.

The very encouraging effects of the adoption of artificial pneumothorax treatment are also outlined on pages 63/64 of this volume. This method of treatment seems to open out a new field of hope for victims of this disease, and it is anticipated that in the near future it will be possible to provide additional facilities for this form of treatment at the Tuberculosis Dispensary.

Maternity and Child Welfare.

The main item of note in connection with the Maternity and Child Welfare Scheme is that in spite of the fall in the birth rate and in the number of births, the work performed under the scheme actually increased during 1931. The fact is that the proportion of mothers who avail themselves of the advice provided at the Clinics and Centres has increased considerably. The following comparative statement of the number of births in the city, the attendances at the Clinics and Centres, and the visits paid to homes by Health Visitors during the last ten years, may be of interest :—

Year.	No. of Births.	Total attendances of mothers and children at Clinics and Centres.	Total visits paid to homes by Health Visitors.
1922	5,416	49,863	34,935
1923	5,047	54,547	33,417
1924	4,745	59,047	28,291
1925	4,597	52,892	33,263
1926	4,511	60,900	35,258
1927	4,301	53,293	34,013
1928	4,073	57,545	33,452
1929	3,903	57,976	29,181
1930	3,787	66,764	32,205
1931	3,479	70,643	35,416

Treatment of Venereal Diseases.

The attendances at the Venereal Diseases Treatment Centre again showed a considerable increase over those paid during the preceding year, the increase on this occasion being nearly 8,000. The subject is dealt with at length on pages 97 to 122 of this volume, but I would here especially emphasise the need for enlightening the public, particularly during their earlier and more impressionable years, as to the dangers of these diseases. At the present time the only activities taken in this connection are the addresses given during "Health Week," which takes place usually in alternate years. There is certainly need for the more frequent education of adolescents upon this subject.

Milk.

Particular attention was paid during 1931 to the conditions under which milk is sold in the city, especially in small shops dealing in general business and selling unbottled milk. Generally speaking, shops of this type are unsuitable for the sale of unbottled milk, owing to the risk of contamination from exposure to dust or odours. Gradual progress has been made, both by persuasion and the use of legal powers, and it is hoped by degrees to eliminate all but reasonably suitable premises from the list of those in which the sale of unbottled milk is authorised. There is, of course, no virtue in putting milk into a bottle unless the bottle is thoroughly clean and sterile, and for this reason especial care has been devoted to the inspection of the conditions under which milk is bottled. But for this fact it is probable that much of the bottled milk sold in the city would be at least as harmful as ordinary unbottled milk.

Protection against Diphtheria.

The Immunisation Clinics established in September, 1929, continued to function during 1931, and while it may be claimed that the Regent Road Clinic achieved a fair amount of success, the results from the Teneriffe Street Clinic were not too encouraging. So far as one could judge, little or no opposition was felt by the public towards the process—the principal factors in limiting the success of the campaign appear to have been ignorance and apathy. There is good reason to believe, however, that a well-sustained effort made persistently in a definite direction, as, for example, towards the immunisation of infants and young children, will have better results. The ideal plan of campaign, of course, would be to arrange immediately for the protection of all young children. Unfortunately, apart from any other consideration, staffing arrangements preclude any possibility of attempting such a scheme, however desirable it may be, at present. The prevalence of diphtheria in Salford at the time of writing has emphasised, however, the desirability of immunising as many children as possible with the limited means at our disposal. It is proposed, therefore, whilst keeping the matter before the public at every opportunity, to concentrate upon personal persuasion in the case of parents of children who attend the Maternity and Child Welfare Department.

Local Government Act, 1929.

In my Annual Report for 1930 I outlined the administrative arrangements approved by the Council for performing the functions transferred from the Board of Guardians. No alteration in these arrangements was made during 1931, but certain measures of co-ordination have been brought about. For example, in June, 1931, accommodation for the treatment of the female and child in-patients formerly treated at the Municipal Venereal Diseases Treatment Centre, was provided at Hope Hospital. In addition, by arrangement with the Education Committee, orthopædic treatment for school children has been provided at Hope Hospital.

A close liaison has also been established between the Public Health Department and Hope Hospital in connection with patients suffering from venereal diseases in the general wards of the Hospital and in connection with tuberculous patients.

It is regretted that it has not yet been possible to obtain recognition of the Hospital by the Board of Education for the performance of operations for the removal of tonsils and adenoids from school children.

It was not found practicable during 1931 to amend the administrative scheme so as to secure that any additional services should be provided otherwise than by way of poor relief.

Unhealthy Areas.

The only step of note in connection with unhealthy areas taken during 1931 was the making of official representations in respect of the Greengate Clearance Area and the Chapel Street Clearance Areas Nos. 1, 2, 3 and 4.

In conclusion, I wish to express my thanks for the consideration which the Health Committee have extended to me during the past year, and my appreciation of the willing co-operation of the Staff of the Department.

I have the honour to be, Gentlemen,
Your obedient Servant,
H. OSBORNE,
Medical Officer of Health.

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SECTION I.

Mortality Statistics.

STATISTICAL SUMMARY, 1931.

Area.—The City of Salford has a total area of 5,202 acres.

Population.—(Registrar-General's Estimate at Mid-year, 1931).. 225,900

,, (Census, 1931) 223,442

Density.—The Mean Density of the City is equal to 43·4 persons per acre.

Live Births	Legitimate	1,698 Males,	1,659 Females	....	3,357
	Illegitimate	70 ,,	52 ,,	....	122
				Total	3,479

Annual Rate of Births per 1,000 of the Population .... 15·4

Still Births { Males 91, Females 100 } Total 191

Annual Rate of Still Births per 1,000 Total Births .... 52·0

Deaths { Males 1,661, Females 1,537 } Total 3,198

Annual Rate of Mortality per 1,000 of the Population .... 14·2

Percentage of total deaths occurring in Public Institutions, 47 per cent.

Number of women dying in, or in consequence of, childbirth :—

From sepsis 1

,, other causes................................ 14

Death-rate of Infants under one year of age per 1,000 live births :—

Legitimate, 97. Illegitimate, 205. Total 101

Deaths from Measles (all ages) 13

,, ,, Whooping Cough (all ages) 18

,, ,, Diarrhœa (under 2 years of age) 65

TABLE M. 3.

DEATHS IN WARDS FOR THE YEAR 1931.

CAUSES OF DEATH.	At all Ages.																
	City.	Albert Park.	Charlestown.	Claremont.	Crescent.	Docks.	Kersal.	Langworthy.	Mandley Park.	Ordsall Park.	Regent.	St. Matthias'.	St. Paul's.	St. Thomas'.	Seedley.	Trinity.	Weaste.
Malaria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	13	..	1	..	1	..	..	1	..	2	1	1	3	1	..	1	1
Scarlet Fever	4	..	1	1	..	1	..	..	..	..	1	..	..	..	..	..	..
Whooping Cough	18	3	2	..	3	3	2	1	..	..	..	..	1	2	..	1	..
Diphtheria and Croup	30	2	3	1	3	1	2	2	2	3	1	2	2	4	1	..	1
Chicken Pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Influenza	65	4	5	7	5	5	4	4	4	1	1	4	6	4	..	5	6
Erysipelas	6	..	1	..	1	1	1	..	..	..	..	1	..	..	..	..	1
Encephalitis Lethargica	4	1	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..
Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis of Respiratory System	267	15	16	6	28	19	13	12	14	19	21	23	19	11	8	34	9
Tuberc: Meningitis	16	1	..	..	..	..	2	1	1	1	2	1	3	1	..	3	..
Other Tuberculous Diseases	30	..	1	3	4	1	..	..	2	2	2	3	3	2	..	5	2
Cancer (Malignant Disease)	327	38	20	11	22	23	16	14	16	18	29	25	20	26	10	24	15

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Diabetes	24	3	2	2	2	2	3	..	1	2	1	1	2	2	1	..	..
Rheumatic Fever	23	4	..	..	3	3	..	1	..	1	3	..	..	2	..	3	3
Meningitis	2	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..
Cerebro-Spinal Meningitis	4	..	..	..	1	..	..	..	1	1	1	..	..	..	..	..	..
Cerebral Hæmorrhage, etc.	107	13	4	7	8	5	4	6	6	5	6	10	5	7	6	7	8
Poliomyelitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Arterio Sclerosis	123	6	9	3	7	11	4	4	13	14	7	8	9	6	8	6	8
Heart Disease	316	23	25	11	22	14	14	11	26	17	18	31	19	29	14	24	18
Bronchitis	409	38	31	10	46	27	21	20	19	28	30	37	20	15	9	39	19
Pneumonia (all forms)	310	17	32	7	43	15	7	11	17	22	22	18	27	32	7	25	8
Other Respiratory Diseases	49	3	5	5	6	3	3	5	..	3	3	3	1	2	1	3	3
Diarrhœa and Enteritis	67	7	2	1	9	2	1	1	5	4	7	11	3	1	2	9	2
Ulcer of Stomach and Duodenum	25	..	4	..	2	2	2	4	..	2	1	2	..	2	1	2	1
Appendicitis and Typhlitis	16	..	2	..	..	..	1	..	2	3	..	2	2	2	1	1	..
Cirrhosis of Liver	6	1	..	..	..	1	..	..	1	..	..	1	..	..	..	2	..
Alcoholism	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nephritis, Acute and Chronic	87	4	7	5	9	3	4	3	7	6	8	7	2	7	9	4	2
Puerperal Sepsis	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Other Accidents and Diseases of Pregnancy and Parturition	14	..	..	..	..	1	1	..	..	1	2	1	4	2	..	1	1
Congenital Debility and Malformation	45	5	2	..	4	3	2	2	4	3	3	5	5	2	..	7	..
Premature Birth	67	5	3	..	5	1	2	3	4	6	8	6	7	6	1	5	5
Violent Deaths (excluding Suicide)	77	10	3	4	9	5	2	3	2	4	5	7	6	4	5	4	4
Suicide	26	1	3	..	2	2	1	1	1	3	1	1	1	2	2	3	2
Other Defined Diseases	617	44	38	28	59	46	30	31	44	27	24	48	46	37	25	56	34
Ill-defined or Unknown	3	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	1
Totals	**3198**	**248**	**224**	**113**	**304**	**200**	**142**	**142**	**193**	**199**	**208**	**259**	**218**	**211**	**111**	**274**	**154**

TABLE M. 4.

CAUSES OF, AND AGES AT, DEATH DURING THE YEAR 1931.

Causes of Death.	Net Deaths at the Subjoined Ages of "Residents" whether occurring within or without the District.								
	All Ages.	Under 1 year.	1 and under 2 years.	2 and under 5 years	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.
All Causes—Certified	3193	351	75	56	97	154	380	946	1134
Uncertified	5	..	..	..	..	..	..	2	3
Malaria	..	..	..	..	..	..	..	..	..
Enteric Fever	..	..	..	..	..	..	..	..	..
Small Pox	..	..	..	..	..	..	..	..	..
Measles	13	2	8	3	..	..	..	..	..
Scarlet Fever	4	..	..	3	1	..	..	..	..
Whooping Cough	18	10	5	3	..	..	..	..	..
Diphtheria and Croup	30	4	1	9	16	..	..	..	..
Chicken Pox	..	..	..	..	..	..	..	..	..
Influenza	65	6	..	1	2	2	9	24	21
Erysipelas	6	3	1	..	..	1	..	1	..
Encephalitis Lethargica	4	..	..	..	..	..	..	2	2
Anthrax	..	..	..	..	..	..	..	..	..
Tuberculosis of Respiratory System	267	..	..	..	3	70	103	83	8
Tuberculous Meningitis	16	1	1	3	5	5	1	..	..
Other Tuberculous Diseases	30	1	3	1	6	8	7	4	..
Cancer, Malignant disease	327	..	..	..	..	2	20	173	132
Diabetes	24	..	..	..	1	1	1	10	11
Rheumatic Fever	23	..	..	..	2	2	5	9	
Meningitis	2	..	..	..	1	..	1	..	..
Cerebro-Spinal Meningitis	4	1	..	..	2	..	1	..	..
Cerebral Hæmorrhage, etc.	107	..	..	..	..	..	3	39	6
Poliomyeltis	..	..	..	..	..	..	..	..	..
Arterio Sclerosis	123	..	..	..	..	..	1	30	9
Heart Disease	316	..	..	..	5	10	34	117	15
Bronchitis	409	15	5	4	1	2	25	146	21
Pneumonia (all forms)	310	90	40	14	10	13	45	62	3
Other Respiratory Diseases	49	1	3	1	1	2	7	20	1
Diarrhœa and Enteritis	67	63	2	1	..	..	..	1	.
Ulcer of Stomach and Duodenum	25	..	..	..	..	1	9	9	
Appendicitis and Typhlitis	16	..	..	..	3	4	3	4	
Cirrhosis of Liver	6	..	..	..	..	..	..	4	
Alcoholism	..	..	..	..	..	..	..	..	.
Nephritis Acute and Chronic	87	..	..	1	2	4	13	32	3
Puerperal Sepsis	1	..	..	..	..	..	1	..	.
Other accidents and diseases of Pregnancy and Parturition	14	..	..	..	..	4	10	..	.
Congenital Debility and Malformation	45	42	3	..	..	..	..	..	.
Premature Birth	67	67	..	..	..	..	..	..	.
Violent Deaths, excluding Suicide	77	2	1	6	14	11	17	15	1
Suicide	26	..	..	..	..	..	7	16	
Other Defined Diseases	617	43	2	6	22	12	57	145	33
Diseases ill-defined or unknown	3	..	..	..	..	..	..	2	
Totals	3198	351	75	56	97	154	380	948	113

TABLE M. 7.

BIRTHS IN THE CITY OF SALFORD AND IN ITS WARDS, DISTINGUISHING DEATHS OF LEGITIMATE AND ILLEGITIMATE INFANTS UNDER ONE YEAR OLD.

FOR THE YEAR 1931.

Ward.	Births.		Percentage of Illegit. Births to Total Births.	Deaths under One Year.		Proportion of Deaths under One Year per 1,000 Births.		
	Total.	Illegit.		Total.	Illegit.	Total.	Legit.	Illegit.
Albert Park	278	17	6·1	30	2	108	107	118
Charlestown	252	6	2·4	23	..	91	93	..
Claremont.......	75	1	1·3	3	..	40	41	..
Crescent	364	18	4·9	46	5	126	118	278
Docks	182	7	3·8	15	1	82	80	143
Kersal	170	9	5·3	9	1	53	50	111
Langworthy	172	3	1·7	12	1	70	65	333
Mandley Park ..	177	5	2·8	21	1	119	116	200
Ordsall Park	223	7	3·1	24	2	108	102	286
Regent	290	9	3·1	28	3	97	89	333
St. Matthias' ...	257	10	3·9	32	2	124	121	200
St. Paul's	255	4	1·6	29	..	114	116	..
St. Thomas'	234	3	1·3	19	2	81	74	667
Seedley	98	3	3·1	4	1	41	32	333
Trinity	273	15	5·5	41	1	150	155	67
Weaste	179	5	2·8	15	3	84	70	600
Totals	**3,479**	**122**	**3·5**	**351**	**25**	**101**	**97**	**205**
CORRESPONDING DATA FOR THE CITY FOR THE TEN YEARS 1921–1930.								
City	**46,373**	**1,899**	**4·1**	**4,849**	**337**	**104**	**101**	**177**

TABLE M. 8.

SHOWING THE BIRTHS IN THE CITY OF SALFORD, DEATHS OF LEGITIMATE AND ILLEGITIMATE INFANTS UNDER ONE YEAR OLD AND THE PROPORTION OF DEATHS UNDER ONE YEAR OF AGE PER 1,000 BIRTHS DURING THE YEARS 1915 TO 1931.

Year.	Births.			Percentage of Illegitimate Births to Total Births.	Deaths under One Year.			Proportion of Deaths under One Year per 1,000 Births.		
	Total.	Legit.	Illegit.		Total.	Legit.	Illegit.	Total.	Legit.	Illegit
1915....	5455	5257	198	3·6	733	692	41	134	132	207
1916....	5091	4894	197	3·9	587	544	43	115	112	218
1917....	4452	4234	218	4·9	551	498	53	124	118	243
1918....	4282	4043	239	5·5	478	436	42	111	107	175
1919....	4435	4179	256	5·8	501	466	35	113	111	137
1920....	6441	6170	271	4·2	630	584	46	97	94	169
1921....	5993	5702	291	4·8	641	585	56	107	102	192
1922....	5416	5169	247	4·5	599	564	35	110	109	141
1923....	5047	4841	206	4·1	493	458	35	98	95	170
1924....	4745	4569	176	3·7	579	533	46	122	117	261
1925....	4597	4398	199	4·3	482	452	30	105	103	151
1926....	4511	4349	162	3·6	464	434	30	103	100	185
1927....	4301	4130	171	4·0	348	328	20	81	79	117
1928....	4073	3915	158	3·9	431	408	23	106	104	146
1929....	3903	3761	142	3·6	489	460	29	125	122	204
1930....	3787	3640	147	3·9	323	290	33	86	80	224
1931....	3479	3357	122	3·5	351	326	25	101	97	205

TABLE M. 14.

SHOWING THE BIRTH-RATES, ALSO RATES OF MORTALITY FROM ALL CAUSES, FROM THE SEVEN PRINCIPAL ZYMOTIC DISEASES, AND FROM PHTHISIS, CANCER, NERVOUS DISEASES, HEART DISEASES, BRONCHITIS, PNEUMONIA AND THE INFANT MORTALITY RATE, DURING THE YEARS 1878 TO 1931.

Years.	Population.	Rates per 1,000 Population from									Deaths under One Year to 1,000 Births.	Marriage Rate.
		Births.	Deaths. All Causes.	Seven Principal Zymotic Diseases.	Phthisis.	Cancer.	Nervous Diseases.	Heart Diseases.	Bronchitis.	Pneumonia.		
878..	160.277	44·7	27·1	5·4	2·7	0·5	3·5	1·1	3·6	1·8	185	17·9
879*	165,899	43·0	26·7	4·2	2·9	0·4	3·7	1·2	4·3	1·8	170	15·2
880..	171,727	41·4	27·9	7·4	2·7	0·4	3·2	0·9	3·4	1·9	197	16·6
881..	177.760	38·8	22·5	3·0	2·5	0·5	3·1	1·1	3·6	1·6	163	16·4
882..	179,855	39·7	23·7	4·0	2·4	0·4	3·6	1·1	2·8	1·7	177	16·9
verage 5 years.		**41·5**	**25·6**	**4·8**	**2·6**	**0·4**	**3·4**	**1·1**	**3″5**	**1·8**	**178**	**16·6**
883..	181.951	37·3	23·6	3·4	2·7	0·4	3·1	1·2	3·0	1·7	171	16·1
884*	184,047	38·8	24·4	4·4	2·6	0·5	2·9	1·1	2·8	1·7	184	16·1
885..	186,142	37·6	23·0	3·6	2·6	0·5	2·9	1·2	3·0	1·9	174	16·1
886..	188,238	38·5	24·8	4·1	2·6	0·5	2·8	1·3	3·3	1·8	197	15·3
887..	190,334	36·6	25·5	4·9	2·3	0·5	3·2	1·3	2·9	2·2	195	15·4
verage 5 years.		**37·8**	**24·3**	**4·1**	**2·6**	**0·5**	**3·0**	**1·2**	**3·0**	**1·9**	**184**	**15·8**
888..	192,429	37·1	24·8	3·9	2·3	0·5	3·0	1·1	3·0	2·1	184	15·2
889..	194,525	35·9	25·1	5·3	1·9	0·6	2·5	1·3	2·6	1·9	181	16·7
890*	196,621	36·1	27·7	4·4	2·2	0·5	2·0	1·3	3·4	3·8	198	17·5
891..	198,775	36·3	26·0	3·4	2·2	0·5	2·2	1·1	3·7	3·0	194	18·1
892..	200,833	35·8	24·6	4·6	1·9	0·6	2·0	1·2	2·6	2·9	186	16·7
verage 5 years.		**36·2**	**25·6**	**4·3**	**2·1**	**0·5**	**2·3**	**1·2**	**3·1**	**2·7**	**189**	**16·8**
893..	203,015	34·7	24·1	4·2	1·9	0·6	2·0	1·4	2·6	2·3	211	16·2
894..	205,220	34·3	21·1	3·3	1·8	0·6	2·0	1·1	1·9	2·3	174	17·1
895..	207,449	35·9	25·6	5·0	1·9	0·6	2·3	1·3	2·6	2·7	229	17·4
896*	209,703	35·6	23·1	4·2	1·5	0·6	2·0	1·4	2·2	2·7	200	18·1
97..	211,981	35·2	23·9	5·6	1·8	0·6	2·1	1·3	2·4	2·1	219	18·6
verage 5 years.		**35·1**	**23·6**	**4·5**	**1·8**	**0·6**	**2·1**	**1·3**	**2·3**	**2·4**	**207**	**17·5**
98..	214,284	34·9	22·8	4·2	1·8	0·8	2·2	1·2	2·2	2·2	213	18·6
99..	216,612	34·1	23·9	4·4	1·8	0·6	2·3	1·4	2·5	2·7	211	18·7
00..	218,965	33·3	25·3	4·1	1·8	0·6	2·4	1·7	3·2	2·8	208	17·3
01..	221.212	29·2	21·7	4·2	1·8	0·7	1·9	1·5	2·3	1·9	205	17·9
02*	222.233	34·0	19·3	2·7	1·7	0·7	2·0	1·5	2·2	2·1	157	18·4
erago 5 years.		**33·1**	**22·6**	**3·9**	**1·8**	**0·7**	**2·2**	**1·5**	**2·5**	**2·3**	**199**	**18·2**
03..	223,260	32·6	19·4	2·9	1·8	0·7	1·9	1·4	2·1	1·9	168	18·1
04..	224,299	32·4	21·4	4·4	2·0	0·6	1·8	1·7	2·2	1·9	193	21·5
05..	225,327	31·8	17·7	2·6	1·5	0·6	1·7	1·6	1·8	1·8	148	17·8
06..	226,367	31·2	19·1	3·3	1·7	0·8	1·7	1·5	2·0	1·8	162	18·6
07..	227,413	30·6	18·5	2·2	1·7	0·7	1·7	1·6	2·1	2·3	140	17·9
erage 5 years.		**31·7**	**19·2**	**3·1**	**1·7**	**0·7**	**1·8**	**1·6**	**2·0**	**1·9**	**162**	**18·3**

In the years 1879, 1881, 1890, 1896, 1902. 1908, 1913, 1921, and 1927 the facts are those registered in 53 instead of 52 weeks; corrections have therefore been made in calculating the rates. † Civil population.

TABLE M. 14—*Continued.*

Years.	Population.	Rates per 1,000 Population from									Deaths under One Year to 1,000 Births.	Marriage
		Births.	Deaths, All Causes.	Seven Principal Zymotic Diseases.	Phthisis.	Cancer.	Nervous Diseases.	Heart Diseases.	Bronchitis.	Pneumonia.		
1908*	228,463	31·2	18·7	3·2	1·6	0·7	1·6	1·4	1·9	1·7	153	15·
1909..	229,519	29·5	19·0	2·5	1·5	0·8	1·7	1·4	2·3	2·3	141	15·
1910..	230,579	28·6	16·2	1·8	1·4	0·9	1·6	1·4	1·8	1·7	131	16·
1911..	231,641	27·4	17·4	2·5	1·6	0·9	1·3	1·3	1·8	1·8	154	. .
1912..	232,726	26·8	17·2	2·2	1·5	1·0	1·4	1·5	2·1	2·0	130	. .
Average 5 years.		**28·7**	**17·7**	**2·4**	**1·5**	**0·9**	**1·5**	**1·4**	**2·0**	**1·9**	**142**	.
1913*	233,849	27·0	16·3	1·9	1·4	1·0	1·4	1·8	1·8	1·7	139	.
1914..	234,975	26·9	17·1	1·9	1·6	1·1	1·4	1·8	1·8	1·8	126	.
1915..	219,979†	24·8	19·1	2·8	1·7	1·1	1·4	1·6	2·3	1·9	134	.
1916..	214,229†	21·8	15·8	1·2	1·6	1·0	1·3	1·3	1·9	1·5	115	.
1917..	211,373†	18·9	16·0	1·6	1·5	1·2	1·4	1·3	2·0	1·4	124	.
Average 5 years.		**24·3**	**16·8**	**1·9**	**1·6**	**1·0**	**1·4**	**1·6**	**2·0**	**1·7**	**128**	.
1918..	209,274†	18·3	18·0	1·0	1·6	1·1	1·2	1·1	2·3	1·9	111	.
1919..	226,225†	18·8	15·8	0·8	1·2	1·1	1·1	1·1	2·4	1·5	113	.
1920..	235,239	27·3	13·7	0·9	1·2	1·0	1·0	1·0	1·8	1·1	98	.
1921*	239,100	25·2	13·9	1·1	1·3	1·0	1·0	1·2	1·7	1·5	106	.
1922..	240,700	22·1	14·6	1·3	1·3	1·1	0·9	1·1	1·9	1·7	110	.
Average 5 years.		**22·3**	**15·2**	**1·0**	**1·3**	**1·0**	**1·0**	**1·1**	**2·0**	**1·5**	**108**	.
1923..	241,600	20·9	13·5	0·8	1·3	1·2	0·9	1·1	1·6	1·5	98	.
1924..	243,700	19·5	14·5	1·3	1·2	1·3	0·7	1·0	1·8	1·6	122	.
1925..	244,700	18·8	13·9	1·0	1·3	1·2	0·8	1·0	1·8	1·3	105	.
1926..	247,400	18·2	12·4	0·7	1·3	1·3	0·9	1·0	1·6	1·1	103	.
1927*	247,600	17·3	13·9	0·7	1·4	1·3	1·1	1·5	1·5	1·3	81	.
Average 5 years		**18·9**	**13·6**	**0·9**	**1·3**	**1·3**	**0·9**	**1·1**	**1·7**	**1·4**	**102**	.
1928..	241,500	16·9	13·3	0·8	1·2	1·3	0·8	1·3	1·4	1·2	106	.
1929..	235,600	16·6	15·4	1·5	1·2	1·3	0·9	1·1	2·2	1·6	125	.
1930..	230,100	16·5	13·3	0·9	1·2	1·4	0·8	1·3	1·6	1·1	86	.
1931..	225,900	15·4	14·2	0·6	1·2	1·4	0·8	1·4	1·8	1·4	101	

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* In the years 1879, 1884, 1890, 1896, 1902, 1908, 1913, 1921, and 1927 the facts are those registered in 53 inst of 52 weeks; corrections have therefore been made in calculating the rates. † Civil population.

SECTION II.

General Work of the Health Department.

(A) SANITARY CIRCUMSTANCES AND SANITARY ADMINISTRATION OF THE DISTRICT.

Natural and Social Conditions of the District.

Salford is situated in the south-east of Lancashire and is partially divided from Manchester by the River Irwell. The older portion of the City lies along the right bank of the river, and the ground rises gradually from an elevation of 85 feet above sea level to about 250 feet, the mean elevation being 140 feet.

The area of the City of Salford is 5,202 acres. The subsoil consists principally of clay interspersed with sand and gravel, with occasional patches of red sandstone.

The population is largely industrial; a considerable portion of the City is occupied by cotton factories and engineering works, with collieries on the outskirts.

The principal Docks and a portion of the Manchester Ship Canal are situated in Salford.

There is no special influence of any particular occupation on the public health of the area.

Owing to the industrial character of the City, and the close proximity of a number of other industrial towns, the atmosphere of Salford is heavily smoke polluted. This pollution contains an excessive proportion of tarry substances given off from the burning of raw coal in domestic grates. Generally speaking, the rainfall is excessive and the atmosphere humid. Owing to the pollution of the atmosphere and the excess of cloud, there is a deficiency of sunshine.

Salford Local Acts and Orders.

The Salford Borough Act, 1857.
The Salford Improvement Act, 1862.
The Salford Improvement Act, 1867.
The Salford Improvement Act, 1870.
The Salford Improvement Act, 1871.
The Salford Tramways and Improvement Act, 1875.

Provisional Order relating to the Borough of Salford confirmed by the Local Government Board's Provisional Order Confirmation (No. 8) Act, 1882.

An Order, dated 20th December, 1882, and made by the Local Government Board under the provisions of the Divided Parishes and Poor Law Amendment Act, 1876, as amended and extended by the Poor Law Act, 1879, amalgamating a detached part of the Township of Pendlebury with the Township of Pendleton.

The Salford Corporation Tramways Order, 1885, confirmed by the Tramways Orders Confirmation (No. 2) Act, 1885.

The Salford Corporation Act, 1886.
The Salford Corporation Act, 1891.

Provisional Order relating to the Borough of Salford confirmed by the Local Government Board's Provisional Orders Confirmation (No. 14) Act, 1891.

Provisional Order relating to the Borough of Salford confirmed by the Local Government Board's Provisional Orders Confirmation (Housing of Working Classes) Act, 1891.

Provisional Order relating to the Borough of Salford confirmed by the Local Government Board's Provisional Order Confirmation (No. 12) Act, 1892.

The Salford Improvement Act, 1893.
The Salford Corporation Act, 1897.
The Salford Order, 1898.

An Order, dated 2nd March, 1899, and made by the Local Government Board under the provisions of the Housing of the Working Classes Act, 1890, modifying an improvement scheme relating to the Borough of Salford.

The Salford Corporation Act, 1899.
The Salford Corporation Act, 1900.
The Salford Corporation Act, 1901.
The Salford Corporation Act, 1902.
The Salford Corporation Act, 1903.

Order in Council, dated 27th March, 1905, directing that none but persons duly licensed shall let Lodgings to Seamen in the Borough of Salford.

The Salford Order, 1906.
The Salford Order, 1908.
The Salford Order, 1912.
The Salford (Union of Townships) Order, 1918.
The Salford Corporation Act, 1920.

Confirming Order of Minister of Health, dated 7th April, 1921, under Section 112 of the Public Health Act, 1875, as amended by Section 51 of the Public Health Acts Amendment Act, 1907, declaring that certain trades be Offensive Trades.

Order in Council, dated 10th August, 1921, approving scheme determining the Wards of the Borough and apportioning the Councillors.

The Salford Order, 1922.
The Salford Order, 1925.
The Salford Corporation Act, 1927.

Acts of Parliament adopted by the Council.

The Baths and Wash-house Acts. Adopted October 4th, 1876.

Infectious Diseases (Notification) Act, 1889. Adopted 5th February, 1920.

The Infectious Disease (Prevention) Act, 1890 (except Sections 14 and 19) and Parts 2, 3, 4 and 5 of the Public Health Acts Amendment Act, 1890. Adopted January 7th, 1891.

The Private Street Works Act, 1892. Adopted April 4th, 1894.

Notification of Births Act, 1907. Adopted January 7th, 1914.

Section 95 of the Public Health Acts Amendment Act, 1907. Order issued by Local Government Board, dated 27th October, 1908, declaring the above section to be in force in the County Borough of Salford.

Public Health Acts Amendment Act, 1907, Section 51.

Public Health Acts Amendment Act, 1907. Order of Local Government Board, dated 28th August, 1909, that on and after 16th October, 1909, Section 47 and Part V. of the Act should be in force in the County Borough of Salford.

Public Health Acts Amendment Act, 1907. Order of Local Government Board, dated 22nd April, 1914, that on and after 3rd June, 1914, Sections 23, 27, 33 and 76 of the Act should be in force in the County Borough of Salford.

Sanitary Circumstances.

WATER.—The water supply is obtained from the Manchester Corporation's reservoirs at Longdendale Valley. It is ample in quantity and excellent in quality.

RIVERS AND STREAMS.—The question of river pollution is in the hands of the River Irwell Conservancy Committee.

Drainage and Sewerage.

The drains of the District are satisfactory. Salford sewage is conveyed to the Sewage Works at Weaste by a combined system of Sewers. The sewage is treated with Lime and Copperas, after which it is passed through settling tanks and thence through aerating filter-beds and humus tanks. The effluent from the humus tanks is discharged into the Manchester Ship Canal and the residual sludge carried out to sea by steamer.

Scavenging.—The removal and disposal of house refuse is under the authority of the Lighting and Cleansing Committee of the Corporation.

Sanitary Inspection of District.

Staff.—The staff employed in this connection consists of the Chief Inspector, a Deputy Chief Inspector, nine Assistant Inspectors, and one Lady Inspector.

The systematic inspection of the City was conducted during the year 1931 on the same lines as in previous years. The result of the inspections may be gathered from a perusal of the "Register of Work Done," which is to be found at the end of this section of the report. It shows that the number of complaints received at the office of the Department was 3,810, as compared with 3,785 received in 1930, also that 9,108 dwelling-houses were inspected during the year. The details of each section of the work will be found under the special heading.

TABLE G. 1.

Common Lodging Houses, 1931.

	Wards.				
	Crescent.	St. Paul's.	St. Thomas's.	Trinity.	Total.
Number on Register	7	1	1	5	**14**
Number added to Register in 1931	..	..	..	..	..
Number removed from Register in 1931	..	..	..	..	..
Number of Rooms	60	6	8	37	**111**
,, Beds	294	25	23	497	**839**
Average Number occupied each night—Males	138	16	11	363	**528**
Females	..	..	..	..	..
Notices served on Landlords	7	..	..	..	**7**
,, ,, Keepers	..	..	..	..	..
Number of Day Inspections	209	31	31	113	**384**
,, Night Inspections	12	6	6	18	**42**

Common Lodging Houses.

There were 14 Common Lodging Houses on the register during the year, including Salford House in Bloom Street ; seven are in the Crescent Ward, five in Trinity, one in St. Paul's, and one in St. Thomas's Wards. These houses contain 111 rooms, with 839 beds. The average number of beds occupied per night was 528 for males and none for females. Three hundred and eighty-four inspections were made during the day time and 42 at night.

The addresses of and particulars relating to these lodging houses are as follows :—

Address.	Accom-modation. Sleeping Rooms.	Lodgers.	Total number of lodgers who could be accom-modated during the year.	Total number of lodgers accom-modated during the year.
17, Bolton Street	5	49	17,885	13,631
61, Bury Street	7	33	12,045	8,584
32/34, Chapel Street	14	88	32,120	11,841
41A, Gravel Lane	5	42	15,330	9,117
"Salford House," Bloom Street	6	285	104,025	89,014
21, East Ordsall Lane	2	16	5,840	3,330
113, Oldfield Road	7	27	9,855	4,602
1 and 1A, Park Place	24	125	45,625	17,445
2, Park Place	13	26	9,490	5,128
3, Park Place	4	43	15,695	5,198
13, Windsor	4	15	5,475	2,671
2, Comus Street	6	42	15,330	11,848
1/5, Travis Court	8	23	8,395	4,152
2, West High Street	6	25	9,125	5,777

The total number of lodgers who could be accommodated during the year, in all the houses, was 306,235, and the total number actually accommodated was 192,292, a difference of 113,943.

Of the 839 beds, an average of 528 was occupied each night, leaving an average of 311 beds empty.

The above figures show that although the lodging houses as a whole (excluding the Corporation's own institution—"Salford House") were occupied to only 51·1 per cent of their full capacity ; "Salford House" itself was occupied to the extent of 85·6 per cent of its total accommodation, and this in spite of the fact that its charges are about 25 per cent higher than those obtaining in ordinary lodging houses.

These Lodging Houses have been kept in good and clean condition during the year, and the Byelaws have been observed.

Houses Sub-let in Lodgings.

There are 333 houses let in apartments in the City; these contain 1,893 rooms. Thirty-four houses were registered during the year and thirty-four discontinued.

The registration of these houses gives us power to inspect them at any time. They have been inspected from time to time, and they have received 1,700 inspections in the day time and 286 at night.

Throughout the year the District Inspectors have given much attention to the question of overcrowding as regards many of these houses.

Seamen's Lodging Houses.

There were seven Seamen's Lodging Houses in the City on the Register during the year, containing 25 rooms and 82 beds. There have been seven applications for renewals and new licences. One house was given up at the end of the year and one house was newly licensed.

The Byelaws in force regulating these houses have been carried out, and the houses generally kept in good and clean condition. Seventy visits have been made during the day time and 28 visits during the night time.

The addresses of and particulars relating to these houses are as follows :

Address.	Accommodation. Sleeping Rooms.	Lodgers.
129/131, Trafford Road	4	17
69, Monmouth Street	6	12
53, Trafford Road	5	26
31, Gledhill Street	1	1
68, Monmouth Street	4	8
119, New Park Road	1	4
71, Goodiers Lane	4	14

The keepers of these houses are not required to submit a Return of the number of Seamen sleeping on the premises, but it is the general impression from the visits made by the Inspectors that these houses are not used to the fullest extent. This is no doubt due to the slackness of trade in the shipping business.

Workshops.

At the end of the year there were 855 workshops on the register. These have been regularly inspected by the Lady Inspector of Workshops and by the District Inspectors, the Lady Inspector visiting those workshops where females are employed and the District Inspectors visiting those premises where males only are employed.

One hundred and seventy-four defects were found in the workshops, the particulars being given in Table B. The chief defect was want of cleanliness both in the workshops and bakehouses, which was found in 71 cases and 103 cases respectively. Five notices were served, and in the other case the tenants were cautioned and the defects remedied.

Re OUTWORKERS.—The women outworkers' premises are visited by the Lady Inspector of Workshops, and those of the men by the District Inspectors.

During the year 173 visits have been paid.

During this year the Lady Inspector of Workshops has inspected 421 Fish and Chip Restaurants, where women are employed, to ascertain the conditions as to cleanliness and sanitation.

A number of these premises are still being found where the yard space has been enclosed, thereby preventing free ventilation to the sanitary accommodation. Where these have been found, the tenants have been warned, and the structures removed: 12 notices were served for other defects.

FACTORIES, WORKSHOPS, WORKPLACES AND HOME-WORK.

A.—Inspection.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS DURING THE YEAR 1931.

Premises. (1)	Number of Inspections. (2)	Number of Written Notices. (3)	Number of Prosecutions. (4)
Factories (Including Factory Laundries)	17	1	..
Workshops (Including Workshop Laundries.)	2887	15	..
Workplaces (Other than Outworkers' premises included in Part 3 of this Report.)	481	12	..
Total	3385	28	..

B.—Defects Found.

Premises. (1)	Number of Defects.			Number of Prosecutions. (5)
	Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	
Nuisances under the Public Health Act—*				
Want of cleanliness	135	134	7	..
Want of ventilation	4	4	..	..
Overcrowding	1	1	..	..
Want of drainage of floors	14	14	..	..
Other nuisances	5	5	..	..
Sanitary accommodation insufficient	5	8	5	..
unsuitable or defective	9	7	2	..
not separate for sexes	..	..	..	..
Offences under the Factory and Workshops Act—				
Illegal occupation of underground bakehouse (s. 101)	..	..	..	..
Breach of special sanitary requirements for bakehouses (ss. 97 to 100)	..	..	..	..
Other offences (excluding offences relating to outwork which are included in Part 3 of this Report)	1	1	..	..
Total	174	174	14	..

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* Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act as remediable under the Public Health Acts.

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.												OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.			OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110.		
	Lists received from Employers.						Number of Addresses of Outworkers received from other Authorities.	Number of Addresses of Outworkers forwarded to other Authorities.	Notices served on Occupiers as to keeping or sending lists.	Prosecutions.		Number of Inspections of Outworkers' premises.						
	Sending twice in the year.			Sending once in the year.														
		Outworkers.			Outworkers.													
	Lists.	Con-tractors.	Work-people.	Lists.	Con-tractors.	Work-people.				Failing to keep or permit inspection of lists.	Failing to send lists.		Instances.	Notices served.	Prosecutions.	Instances.	Orders made, S. 110.	Prosecutions, SS. 109, 110.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
* Wearing Apparel—																		
1. Making, &c.	33	17	102	1	..	1	171	100	..	..	..	167	..	..	..	..	..	..
2. Cleaning and washing	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lace, lace curtains and nets	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Artificial flowers	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nets, other than wire nets	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tents	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sacks	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Furniture and upholstery	..	..	..	..	..	..	2	..	..	..	..	2	..	..	..	..	..	..
Fur pulling	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Feather sorting	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Umbrellas &c.	..	..	..	..	..	..	2	..	..	..	..	2	..	..	..	..	..	..
Carding, &c., of buttons, &c.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paper bags and boxes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Basket making	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Brush making	2	..	2	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..
Racquet and tennis balls	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stuffed toys	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
File making	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Electro plate	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cables and chains	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cart gear	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Locks, latches and keys	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Anchors and grapnels	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pea picking	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	35	17	104	1	..	1	175	100	..	..	..	173	..	..	..	..	..	..

* List of Industries as prescribed by Home Office.

D.—Registered Workshops.

Workshops on the Register (s. 131) at the end of the year. (1)	Number. (2)
Tenement Workshops	10
Domestic Workshops	207
Laundries	13
Workshop Bakehouses	245
Other Workshops	380
Total number of Workshops on Register	855

E.—Other Matters.

Class. (1)		Number. (2)
Matters notified to H.M. Inspector of Factories—		
Failure to affix abstract of the Factory and Workshop Act (s. 133) ..		7
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5).	Notified by H.M. Inspector.	19
	Reports (of action taken) sent to H.M. Inspector. .	15*
Other		..
Underground Bakehouses (s. 101)—		
Certificates granted during the year		..
In use at the end of the year		..

* Including reports of action taken in cases notified in previous year.

F.—Additional Sanitation for Retail Bakehouses, Sections 97—102.

Number of such premises in the district, 251.
Note as to their sanitary condition. Ground floor bakehouses—Good.
Action taken as to retail bakehouses in 1931, three notices served.

Action taken.	No. of Defects found.	Notices served.	Legal Proceedings.	Defects remedied	Remarks
As to Closets, &c., Sec. 97		..	..	..	
As to Water Cisterns, Sec. 97	..	..	..	..	
As to Drain Openings, Sec. 97	..	..	..	..	
As to Limewashing, &c., Sec. 97	100	3	..	100	
As to Sleeping Places, Sec. 100	..	..	..	..	

Any proceedings under Section 98 as to retail bakehouses sanitarily unfit. Nil.

UNDERGROUND BAKEHOUSES.

Number of such premises in district. one not in use at present.
Number certified by District Council under Section 101 (2) in 1931, Nil.

BAKEHOUSES, 1931.

Registered	251
Added to Register	20
Discontinued	9
Changed Hands	15
Number of Underground Bakehouses Certified by Authority	1 but not at present in use.
Total Number of Ovens	324
Employees—Males	186
,, Females	446
Notices Served	3

Smoke Nuisance.

Particulars as to smoke nuisance caused by firms during the year 1931 and dealt with by the Health Committee :—

Eleven Notices were issued under the Public Health Act.

The reduction of the emission of black smoke from works' chimneys continues, and the firemen in charge of the boilers are now taking a greater interest in the prevention of black smoke.

During the year 3,366 smoke observations have been made as against 3,331 in the year 1930, and 3,305 in the year 1929.

One hundred and twenty-seven stokers and others were cautioned by the Inspector for negligence in firing the furnaces under their charge, at the same time 22 firms were reported to and dealt with by the Health Committee, also 22 cautionary Notices were issued to firms with a table of smoke observations taken from their chimneys.

Several chimneys have been raised during the year in connection with small workshops.

TABLE SHOWING THE NUMBER OF HALF-HOURLY OBSERVATIONS TAKEN DURING THE YEAR 1931.

Minutes of Black Smoke emitted in half-an-hour.	No. of Observations Taken.	Percentage to Total.
No Black Smoke	2,629	78·1
One Minute	715	21·3
Two Minutes	8	0·2
Three Minutes	5	0·1
Over Three Minutes	9	0·3
Total Observations	3,366	100·0

Manure Receptacles, and Removal of Manure and other Offensive Matter.

The Byelaws with respect to receptacles for manure and the weekly removal of manure, filth, or other offensive or noxious matter, which came into operation towards the end of 1909, have been enforced during the past year, and special attention has been paid to stable yards where manure quickly accumulates.

The Byelaws as regards the regular removal of manure have been well observed.

Canal Boats Acts.

Number of canal boats inspected	164
Number of canal boats conforming to Acts	161
Number of canal boats with one or more infringements	3
Total number of infringements	3
Registration	..
Absence of certificates	2
Dilapidation of certificate	..
Marking	..
Overcrowding	..
Separation of sexes	..
Cleanliness	..
Ventilation	..
Ventilators obstructed	..
Painting	1
Provision of water vessel	..
Water vessels broken	..
Removal of bilge water	..
Boats defective and leaking	..
Dilapidation	..
Stoves defective	..
Stove pipes defective	..
Pumps defective	..
Admittance of Inspector	..
Notification of infectious disease	..
Certificates not identifying owners	..
Loading manure without tight bulkheads	..
Number of notices served	3

Other steps to secure compliance: None.

Detention of boats for cleansing and disinfection: None.

Legal proceedings taken: None.

Number of boats on register: Not a Registration Authority.

Canal boats registered to carry (number of persons)	827
Men found on the boats	306
Women found on the boats	21
Children under 12 years found on the boats	19

Drainage Inspection.

The testing and examination of all existing drainage is carried out by this Department. Two Inspectors and four labourers are kept continually at work examining drainage, and the following table gives the detailed results of their labours :—

Number of tests made	678
,, applications from householders	4
.. houses affected by the tests	925
.. notices and reports issued	348
.. notices and reports complied with	337
.. drain inlets opened and cleared	2,417

INSANITARY CONDITIONS FOUND.

Defects.

Number of drains wholly and partly choked	654
.. drains defectively constructed	367
,, gully traps badly laid	73
.. drains defectively trapped	27
.. waste pipes defectively trapped or connected to drains	18
.. downspouts connected to drains	32
.. soil pipes with leaking joints or defectively ventilated	46
.. defective water closets	76
Total defects	1,293

RECONSTRUCTION OF DRAINS AND THE CONSTRUCTION OF NEW DRAINS.

Number of tests applied	563
.. houses affected	558
.. passage main drains affected	24

MODE WHEEL AMBULANCE AND DISINFECTING STATION.

The Ambulance and Disinfecting Station situated in Mode Wheel Road is under the control of the Medical Officer of Health. The Station is used for the following purposes :—

(*a*) The disinfecting of bedding, clothing, etc., from the homes of persons suffering from infectious disease, by means of high-pressure steam disinfection.

(*b*) As a depôt for the disinfectors employed in disinfecting houses, schools, and public institutions in which a case of infectious disease has occurred.

(*c*) As a station for the bathing of verminous persons and the disinfection of their clothing.

(*d*) The bathing of persons suffering from scabies (particularly school children), and the disinfection of their clothing.

(*e*) The bathing of midwives who have been in contact with cases of puerperal fever, and the disinfection of their clothing and instruments.

(*f*) As a garage for the three motor ambulances required to take persons to and from Hospital and the three motor vans used to collect and deliver bedding, etc., before and after disinfection, and in connection with the cleansing of conveniences. The Station is also used as a repair depôt for the whole of the motor vehicles used in the Department.

The Staff employed at the Station is as follows :—

Foreman.
Caretaker.
Motor Mechanic.
Four Disinfectors.
Four Drivers.

The following is a summary of the work done at the Mode Wheel Disinfecting Station during 1931 :—

AMBULANCES.

	Salford Cases.	Out-District Cases.	Total Cases.
Number of journeys removing patients to Hospital	1,130	379	1,509
Number of journeys removing patients from Hospital to their homes	356	—	356
Number of houses visited by ambulances removing bedding for disinfection	877	53	930
VANS.			
Number of houses visited by vans returning bedding after disinfection.................	1,770	183	1,953

In addition, 674 journeys to Hospital for purposes other than removal of patients were made by motor vehicles, and 104 journeys were made for the purpose of taking home children after operative treatment for tonsils and adenoids. 289 journeys were made in connection with the treatment of children suffering from scabies. There were also 700 journeys for miscellaneous purposes.

DISINFECTIONS.

Number of houses disinfected..................................	1,733
,, rooms disinfected	4,361
,, bundles of clothing and bedding disinfected	4,618
,, books disinfected	472
,, schools disinfected	18
,, hospitals disinfected................................	59
,, ships disinfected	7

Bathing and Disinfection of Clothing.

Midwives	19
Smallpox convalescents	3
Verminous persons	17
Children suffering from scabies	2,375

In March, 1931, the installation of two new steam disinfectors in replacement of two old disinfectors which had become seriously defective, was completed. As a result, it was found possible, without increasing overhead charges, to undertake the disinfection of bedding and clothing from Hope Hospital, thus obviating the necessity of providing a new disinfector house and new disinfecting apparatus at that institution.

PROPAGANDA.

A "Health Week" was organised in Salford from 22nd to 29th November, 1931, both dates inclusive. The arrangements made included film lectures to school children, lectures to a number of local organisations, dinner-hour addresses to workpeople, and public lectures and film shows in large halls in the city. Mr. T. Bowen Partington was again engaged as Official Lecturer and Organiser, and his services were highly appreciated. The meetings, including film displays for school children, were attended by approximately 9,000 people. Addresses were given by Dr. F. W. F. Purcell (Deputy Venereal Diseases Medical Officer for Salford) at the meetings held at the Scala Cinema, Pendleton, and the Victoria Cinema, Broughton, on the afternoons and evenings of Sundays, 22nd and 29th November, 1931, respectively. All these meetings were very well attended, and at the Sunday meetings it was necessary to refuse admission to many hundreds of people, owing to the halls being already filled. It is evident from the experience of this and other "Health Weeks" that the public maintain a keen interest in health subjects generally and social hygiene in particular.

The distribution, free of charge, of the monthly magazine "Better Health" was continued during 1931. There is no doubt that this publication (the cost of which is met almost entirely by advertisements) serves a useful purpose, especially as copies are supplied to all the school teachers in Salford.

The displays which have been given in the windows on the ground floor of the Health Offices in Regent Road for five years, were continued during 1931. These displays have aroused much interest ever since their inception, and requests have been received for the loan of representative exhibits from several local authorities during the past year. A much wider field of activity could be made available in Salford if only it were possible to obtain the use of window-space in prominent positions in other parts of the city.

c

Sanitary Conveniences.

There are 21 conveniences for Males and three for Females in the City, under the control of the Health Committee, namely:—

SITUATION.	MALES.				FEMALES.		
	Urinal Stalls	Water Closets	Wash Basins	Attendant	Water Closets	Wash Basins	Attendant
Trinity Market	6	3	3	1	3	3	1
Trafford Road (Eccles New Road corner)	15	4	4	1	..	..	..
Trafford Road (Ordsall Park) ..	12	4	6	1	..	..	..
Church Street (near the corner of Broad Street)	10	2	3	1	3	3	1
Cross Lane	..	..	..	..	4	4	1
Oldfield Road (Corner of Chapel Street)	6	..	..	..	..	..	..
Liverpool Street	4	..	..	..	..	..	..
Bolton Road (Junction of Claremont Road)	4	..	..	..	..	..	..
Broughton Road	16	..	..	..	..	..	..
Windsor Bridge	6	..	..	..	..	..	..
Blucher Street	8	..	..	..	..	..	..
Stevenson Street	3	..	..	..	..	..	..
Park Lane	5	..	..	..	..	..	..
Broad Street	3	..	..	..	..	..	..
Greengate Arch	6	..	..	..	..	..	..
Eccles New Road	6	..	..	..	..	..	..
Broughton Bridge	8	..	..	..	..	..	..
Frederick Road	4	..	..	..	..	..	..
Moor Lane	6	..	..	..	..	..	..
Cross Lane	5	..	..	..	..	..	..
Albert Park	6	..	..	..	..	..	..
Crescent, near Victoria Arch	6	..	..	..	..	..	..

TABLE G 3.

CASES HEARD BEFORE THE MAGISTRATES DURING 1931.

Offence.	No. of Cases.	Decision of Magistrates.	Total Fines (without costs).
			£ s. d.
For contravening the Animals (Ireland) Landing Order.	1	Fined £20.	20 0 0
For having unsound meat deposited for purpose of sale.	1	Fined £20 and 18s. costs.	20 0 0
For labelling foreign tomatoes as English at a stall in the Miscellaneous Market.	1	Fined £3.	3 0 0
For exposing for sale two sides of calf, one head, etc., which were affected with tuberculosis.	1	Fined £10.	10 0 0
For selling paraffin as turpentine to which a false trade description had been applied.	1	Withdrawn.	. .
For selling cream of tartar as tartaric acid.	1	Fined £5.	5 0 0
For selling bismuth tablets deficient of 81·3 per cent of bismuth oxycarbonate and deficient of heavy magnesium carbonate 43·3 per cent and containing an excess of 58·3 per cent of calcium carbonate.	1	Fined £2.	2 0 0
For selling turpentine containing 70 per cent of paraffin.	1	Fined £15 and £5 5s. costs.	15 0 0
For aiding and abetting in the same offence.	2	Fined £7 10s. each and £5 5s. costs.	15 0 0
For selling whisky containing 19 per cent and 6·6 per cent of added water respectively.	2	1 Fined £10. 1 Fined £5.	15 0 0
For selling milk deficient of 10 per cent of the minimum amount of fat.	1	Fined £2.	2 0 0
For failing to comply with a Notice issued under the Byelaws with respect to Streets, Buildings and Sanitary Requirements made by the Corporation.	1	Fined £2.	2 0 0
Carried forward	14		£109 0 0

CASES HEARD BEFORE THE MAGISTRATES DURING 1931—*Continued.*

Offence.	No. of Cases.	Decision of Magistrates.	Total Fines (without costs). £ s. d.
Brought forward................	14		£109 0 0
For failing to comply with a Notice under the Public Health Act, 1875, to cleanse floors, bedding, drapings and furnishings of interior of house.	1	Fined £2 and Order to Abate made.	2 0 0
For failing to comply with Notices issued under the Public Health Acts to abate nuisances arising from certain sanitary defects existing.	3	1 Fined £5. 1 Fined £3. 1 Fined £1. Order to Abate made in each case.	9 0 0
	18		£120 0 0

Housing, Town Planning, &c., Act.

HOUSE-TO-HOUSE INSPECTIONS UNDER THE HOUSING CONSOLIDATED REGULATIONS, 1925.

Two wards, namely, Charlestown and Mandley Park, were examined during 1931 in accordance with the above-named Regulations, the total number of houses examined being 7,349.

It is interesting to note that of these only 81 had less than four rooms and all but 28 were provided with a separate water closet.

Full details will be found in the following table:—

HOUSING, TOWN PLANNING, &c., ACT.

House-to-House Inspections, 1931.

	Charlestown Ward.	Manley Park Ward.	Total.
Number of houses inspected	3,488	3,861	7,349
Number of dwellings with 1 room	—	—	—
.. .. 2 rooms	12	—	12
.. .. 3 rooms	71	10	81
.. ,, 4 rooms	2,115	655	2,770
.. .. 5 rooms	824	879	1,703
.. .. 6 rooms	373	961	1,334
.. ., over 6 rooms	93	1,356	1,449
Closet Accommodation :—			
Water Closet	3,487	3,861	4,348
Pail Closet	1	—	1
Privy Midden	—	—	—
Number of houses with closet accommodation in common with other dwelling	27	—	27
Ash Accommodation :—			
Metallic Receptacle	3,488	3,861	7,349
Tub	—	—	—
Ashpit	—	—	—
Unsatisfactory	—	—	—
In common	—	—	—
No accommodation	—	—	—
Defects :—			
Insufficient light and ventilation	20	—	20
Defective drainage	—	—	—
No drainage	—	—	—
Serious dilapidation	—	—	—
Back-to-back houses	13	—	13
Houses unfit for habitation	—	—	—
Number of representations made to Local Authority with a view to making Closing Orders	—	—	—
Number of Closing Orders made	—	—	—
Number of dwelling-houses put into fit state for human habitation after making Closing Orders	—	—	—
Defects remedied without Closing Orders	—	—	—

Housing Conditions.

Year ended 31st December, 1931.

(*a*) GENERAL STATISTICS.

Area (acres)	**5,202**
Population (1931) (Registrar General's Estimate)	**225,900**
Number of Inhabited Houses (1931–1932, April)	**51,075**
Number of families or separate occupiers (1931)	—
Rateable Value (1931–1932, April)	**£1,122,764**
Sum represented by a penny rate (Estimate)	**£4,300**

(B) HOUSING STATISTICS.

1. Inspection of dwelling-houses during the year :—	
1. (*a*) Total number of dwelling-houses inspected for housing defects (under P.H. or Housing Acts)	9.108
(*b*) Number of inspections made for the purpose	25.543
2. (*a*) Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925	7,349
(*b*) Number of inspections made for the purpose	7,349
3. Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	Nil.
4. Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	4,205
2. Remedy of defects during the year without service of formal Notices :—	
Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers	1,339
3. Action under Statutory Powers during the year :—	
A. Proceedings under Sections 17, 18 and 23 of the Housing Act, 1930 :	
1. Number of dwelling-houses in respect of which notices were served requiring repairs	Nil
2. Number of dwelling-houses which were rendered fit after service of formal notices :—	
(*a*) by owners	Nil
(*b*) by Local Authority in default of owners	Nil
B. Proceedings under Public Health Acts :	
1. Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	2,952
2. Number of dwelling-houses in which defects were remedied after service of formal notices :—	
(*a*) by owners	1,729
(*b*) by Local Authority in default of owners	Nil
C. Proceedings under Sections 19 and 21 of the Housing Act. 1930 :	
1. Number of dwelling-houses in respect of which Demolition Orders were made	Nil
2. Number of dwelling-houses demolished in pursuance of Demolition Orders	Nil

D. Proceedings under Section 20 of the Housing Act, 1930 :	
1. Number of separate tenements or underground rooms in respect of which closing orders were made	Nil
2. Number of separate tenements or underground rooms in respect of which closing orders were determined, the tenement or room having been rendered fit	Nil
E. Proceedings under Section 3 of the Housing Act, 1925 :	
1. Number of dwelling-houses in respect of which notices were served requiring repairs	Nil
2. Number of dwelling-houses which were rendered fit after service of formal notices :—	
(*a*) by owners	Nil
(*b*) by Local Authority in default of owners	Nil
3. Number of dwelling-houses in respect of which closing orders became operative in pursuance of declarations by owners of intention to close	Nil
F. Proceedings under Sections 11, 14 and 15 of the Housing Act, 1925 :	
1. Number of dwelling-houses in respect of which Closing Orders were made	Nil
2. Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit	Nil
3. Number of dwelling-houses in respect of which Demolition Orders were made	Nil
4. Number of dwelling-houses demolished in pursuance of Demolition Orders	Nil

FITNESS OF HOUSES.

No special difficulties have been found in action under the Public Health Acts. The property owners in general show a disposition to comply with the Notices served under these Acts.

The whole of the property in the City is supplied on the constant system with water from the Corporation mains. With the exception of a very few houses in common courts, each house is supplied with an internal water supply.

With the exception of about four houses, at present provided with pail or privy accommodation, and where, owing to their situation it has been found impossible to provide adequate drainage for a water closet, every house in the City is provided with water closet accommodation, about 650 houses being provided with W.C.'s used in common and the remainder with private W.C. accommodation within their own curtilage.

BYELAWS.

In general, the existing Byelaws and Local Acts are found to be adequate, and no special difficulties have been experienced in their enforcement.

UNHEALTHY AREAS.

In connection with the Five Yearly programme already submitted to the Ministry a representation was made to the Local Authority for dealing with unhealthy areas in the Greengate District, and preliminary surveys were also made in connection with several small unhealthy areas bounded by New Bailey Street, Chapel Street, Blackfriars Street and the River Irwell.

At the end of the year it had not been finally decided whether flats should be built or cottage property.

By the beginning of next year it is hoped to complete arrangements for dealing with the Greengate Area and also with the Chapel Street Area.

TABLE G. 2.

NEW HOUSES ERECTED AND HOUSES DEMOLISHED IN 1931.

Wards.	Houses erected.		Houses demolished.
Kersal	26	..	—
Albert Park	—	..	—
Mandley Park	4	..	—
St. Matthias'	—	..	—
Trinity	—	..	—
Crescent	3	..	—
Regent	—	..	—
Ordsall Park	—	..	—
Docks	—	..	—
Charlestown	—	..	—
St. Thomas'	—	..	—
St. Paul's	—	..	—
Langworthy	1	..	—
Seedley	13	..	—
Weaste	3	..	—
Claremont	44	..	—
	94	..	—

All these houses have been built by private enterprise.

Certificates as to Housing Conditions.

Under the terms of the circular letter issued by the City Treasurer, with reference to the issue by the Medical Officer of Health of certificates to the effect that certain families were not living under sanitary conditions, 109 applications have been made and in 73 cases certificates were issued.

TABLE G. 4.

REGISTER OF WORK DONE—YEAR ENDING DECEMBER 31ST, 1931.

No. of Complaints received		3810
Inspections of	Dwelling-houses	9108
	,, ,, (under Housing, &c., Act)	7349
	Schools	671
	Factories	17
	Canal Boats	164
	Common Lodging-houses (Day)	384
	,, ,, ,, (Night)	42
	Sub let ,, ,, (Day)	1700
	,, ,, ,, (Night)	286
	Seamen's Lodging-houses (Day)	70
	,, ,, ,, (Night)	28
	Van Dwellings	215
	Tips	117
	Bakehouses (Day)	660
	Workshops (Day)	1349
	,, (Night)	277
	Domestic Workshops	483
	Restaurant Kitchens	86
	Outworkers' Premises	173
	Ice Cream Shops	760
	,, Stalls	1
	Fried Fish Dealers	421
	Re Smallpox Contacts	86
	Re Diphtheria Contacts	87
	Miscellaneous	5525
	Laundries	32
	Urinals—Public	545
	Stables	1239
	Re Infectious Diseases	1470
	Theatres, Cinemas, &c. (Day)	159
	,, ,, (Night)	132
Re-inspections		16435
Action taken ..	Statutory Notices issued	2419
	,, ,, complied with	2109
	,, ,, cancelled	66
	Informal Notices issued	1475
	,, ,, complied with	1334
	,, ,, cancelled	78
	Letters written	3637
	Summonses issued	18

REGISTER OF WORK DONE—*continued.*

Disinfection—Houses, etc. Disinfected		1733
House Drains ..	Repaired	309
	Reconstructed	522
	Trapped	221
	Downspouts disconnected from	—
	Blockages removed	1451
Eaves, Gutters, & Downspouts, Passages and Yards	Blockages removed	62
	Inlets opened	1541
Water Closets ..	New, provided	14
	Ventilated	—
Ash Receptacles	New, provided	1155
	Bricked up or demolished	153
Limewashed ...	Dwelling-houses	—
	Lodging-houses	28
	,, Sub-let	71
	,, Seamen's	7
	Bakehouses	279
	Workshops	24
	Workshops (Domestic)	8
	Outworkers' premises	2
	Laundries	1
Newly Licensed	Common Lodging-houses	14
,, ,,	Seamen's ,,	7
Newly Registered ..	Lodging-houses Sub-let	34
	Workshops	20
	,, (Domestic)	—
	Bakehouses	20
	Second-hand Goods Stores	17
	Ice Cream Shops	12
Accumulations Removed	Manure and Refuse	57
	Stagnant Water	4
Smoke Nuisance	Observations taken	3366
	Notices served	11
	Cautionary Notices served	22
Passages and Yards......	Flagged	—
	Repaired	328
	Drained	—
Bundles of Infected Bedding and Clothing	Stoved	4618
	Destroyed	99
Animals removed from improper situations		—
Overcrowding of dwellings abated		1
Houses repaired by owners, after Formal Notice		1729
,, ,, ,, ,, ,, Informal ,,		1339
Canal Boats painted		1
,, defective		—
,, repaired		1

STATEMENT AS TO HOSPITAL SERVICES AVAILABLE FOR SALFORD RESIDENTS.

A. HOSPITALS PROVIDED BY THE SALFORD CORPORATION.

Name and situation of Hospital.	Purpose.	Services and Number of Beds provided.				Classification and Number of Medical and Nursing Staffs.		Arrangements for Employment of Consultants.	Special Departments.	Arrangements for Surgical Operations.	Arrangements for Pathological Examinations.
		Service.	Beds.			Classification.	No.				
			Male.	Female.	Total.						
Hope Hospital, Pendleton, Salford	General	General Medical	97	92	189	Medical Superintendent	1	Consultants appointed as follows: (*a*) Visiting Physician. (*b*) Visiting Specialist in Children's Diseases. (*c*) Visiting Gynæcologist. (*d*) Visiting Orthopædic Surgeon.	X-Ray. Massage. Electro-therapeutics. Ultra-violet radiation. Orthopædic. Pathological. Electro-cardiographic.	Surgical operations for all classes of cases are performed at the Hospital.	All pathological material is examined either in the Municipal Laboratory or in the Hope Hospital Laboratory under direction of City Pathologist.
		General Surgical	70	100	170	Deputy Medical Superintendent	1				
		Children	..	..	165	Anæsthetist and Radiologist	1				
		Maternity	..	33	33	Resident Medical Officer	1				
		Maternity Cots	..	..	36	Resident Surgical Officer	1				
		Tuberculosis	37	13	50	Assistant Medical Officers	4				
		Chronic Sick	92	90	182	Matron and Nursing Staff	238				
		Mental	59	83	142						
		Mental Deficiency	..	..	39						
		Venereal	..	..	6						
		Total			1,012						
Ladywell Sanatorium, Pendleton, Salford.	Infectious Diseases	Ordinary Infectious Diseases	..	..	217	Medical Superintendent	1	Consultants appointed as follows: (*a*) For cases of Puerperal Fever and Pyrexia. (*b*) Visiting Aural Surgeon. (*c*) Other Consultants called in as required.		Surgical operation for affections of the ear, nose and throat are performed at the Sanatorium.	Pathological examinations are carried out at the Municipal Pathological Laboratory.
		Tuberculosis	36	36	72	Assistant Medical Officers	2				
		Puerperal Fever and Pyrexia	..	7	7	Matron and Nursing Staff	66				
		Total			296						
Nab Top Sanatorium, Marple, Cheshire.	Tuberculosis	..	62	58	120	Medical Superintendent	1	..	..	No facilities provided. Cases requiring surgical treatment are transferred to other institutions.	..
						Matron and Nursing Staff	15				
Maternity Home and Babies' Hospital, Pendleton, Salford.	Maternity Cases and Sick Infants	Maternity	..	10	10	Medical Officer (part time)	1	Consultant appointed for cases of Puerperal Fever and Pyrexia.	Artificial Sunlight.	No facilities provided. Cases requiring surgical treatment are transferred to Hope Hospital.	..
		Infants	..	..	16	Matron and Nursing Staff	15				
		Total			26						
Drinkwater Park Hospital, Prestwich.	Smallpox Isolation Hospital	..	24	24	48	Staffed as required.		..	..	..	..
Municipal Clinic, Salford	Venereal Diseases	Medical and Surgical	6	..	6	Staffed by Clinic Staff as required.		..	..	Surgical operations are performed at the Clinic.	Pathological examinations are carried out at the Municipal Pathological Laboratory.
Total Number of Beds provided	by Salford Corporation				1,508						

B.—VOLUNTARY HOSPITAL SITUATED IN SALFORD.

Name and Situation of Hospital.	Purpose.	Services and Number of Beds provided.				Special Departments.
		Service.	Beds.			
			Male.	Female.	Total.	
Salford Royal Hospital, Salford.	General	General Surgical	87	88	175	X-Ray. Orthopædic. Massage. Ear, Nose and Throat. Genito Urinary. Cardiographic. Pathological. Artificial Sunlight. Physiotherapeutic. Dental. Ophthalmic.
		General Medical	31	33	64	
		Venereal Diseases	4	4	8	
		Children's Cots, Medical and Surgical.	..	..	13	
		Observation Beds	..	..	3	
		Total			263	

C.—VOLUNTARY HOSPITALS SITUATED OUTSIDE SALFORD BUT USED BY SALFORD RESIDENTS.

Name and Situation of Hospital.	Purpose.	Services and Number of Beds provided.				Special Departments.
		Service.	Beds.			
			Male.	Female.	Total.	
Manchester Royal Infirmary.	General	General Medical	130	88	218	X-Ray (with Light Therapy and Deep Therapy). Massage (with Diathermy, Electro-therapeutics, Radiant Heat, etc.); Sunlight. Electrocardiographic. Tuberculosis. Pernicious Anæmia. Venereal Diseases. Ophthalmic. Skin Diseases. Neurological Surgery.
		General Surgical	218	147	365	
		Aural	9	8	17	
		Gynæcological	..	18	18	
		Observation	5	4	9	
		Children under 7 (urgencies)	7	6	13	
		Total			640	
St. Mary's Hospital, Manchester.	Maternity, Gynæcological and Children.	Maternity	..	90	90	Massage. Ante-natal. Artificial Sunlight. Venereal Diseases (Out-patients only).
		Gynæcological	..	96	96	
		Children	..	..	25	
		Total			211	
Royal Manchester Children's Hospital, Pendlebury, Lancs.	Children	Medical	..	..	90	X-Ray. Massage (with Electrical and Gymnastic Apparatus). Artificial Sunlight. Orthopædic. Pathological.
		Surgical	..	..	90	
		Isolation	..	..	10	
		Total			190	
Ancoats Hospital, Manchester	General	General Surgical	32	31	63	X-Ray. Massage. Pathological. Cardiographic. Orthopædic. Genito-urinary. Venereal Diseases.
		General Surgical (Children)	..	..	15	
		General Medical	15	15	30	
		General Medical (Children)	..	..	6	
		Total			114	
Manchester Victoria Memorial Jewish Hospital, Cheetham, Manchester.	General	General Medical	12	10	22	X-Ray. Artificial Sunlight. Asthma. Gynæcological. Ear, Nose and Throat. Ophthalmic. Massage and Electrical. General Surgical. General Medical.
		General Medical (Cots)	..	..	4	
		General Surgical	16	16	32	
		Ear, Nose and Throat	..	..	12	
		Total			70	
Manchester Northern Hospital for Women and Children, Cheetham Hill Road, Manchester.	Women and Children	Gynæcological	..	22	22	Dental. X-Ray. Massage. Artificial Sunlight.
		Children:— Medical	..	..	35	
		Surgical	..	..	16	
		Total			73	
Manchester and Salford Hospital for Skin Diseases, Quay Street, Manchester.	Skin Diseases	Skin Cases	24	*30	54	X-Ray. Artificial Sunlight. Venereal Diseases. Tuberculosis of Skin. Private Wards.
		Total			54	
Manchester Ear Hospital, Grosvenor Square, Oxford Road, Manchester.	Diseases of the Ear	..	9	9	18	..
			Children		6	
		Total			24	
Dental Hospital of Manchester, Oxford Road, Manchester.	Dental Treatment	..	..	..	Nil.	Conservation. Prosthetic. Orthodontic. Anæsthetic and Extraction. X-Ray. Pathological.
Manchester Royal Eye Hospital, Oxford Road, Manchester.	Eye Cases	Ophthalmic	56	52	108	Ophthalmia Neonatorum. Sun-Ray. Pathological Laboratory.
		Ophthalmic, Children	..	..	26	
		Ophthalmia Neonatorum (Mothers and Babies).	..	..	7	
		Private Patients	..	..	9	
		Total			150	
Manchester and District Radium Institute, Nelson Street, Manchester.	Radium Treatment	..	..	..	8	..
Total number of Beds provided by Voluntary Hospitals, outside Salford, used by Salford Residents					1,534	

* Includes Children.

SUMMARY SHOWING INSTITUTIONAL ACCOMMODATION WHICH MAY BE USED BY SALFORD RESIDENTS.

Service.	Institutions provided by Salford Corporation.	Voluntary Institutions in Salford.	Voluntary Institutions outside Salford, but used by Salford residents.	Total.
General Medical	189	64	270	523
General Surgical	170	175	460	805
Children	181	13	304	498
Maternity	43	..	90	133
Maternity Cots	36	..	..	36
Tuberculosis	242	..	..	242
Chronic Sick	182	..	..	182
Mental	142	..	..	142
Mental Deficiency	39	..	..	39
Ordinary Infectious Diseases	217	..	..	217
Puerperal Fever and Pyrexia	7	..	..	7
Smallpox	48	..	..	48
Venereal Diseases	6	8	..	14
Ear, Nose and Throat	..	..	53	53
Gynæcological	..	..	136	136
Skin Diseases	..	..	54	54
Ophthalmic Diseases	..	..	143	143
Ophthalmia Neonatorum	..	..	7	7
Radium Treatment	..	..	8	8
Observation Beds, etc.	..	3	9	12
	1,502	263	1,534	3,299

NOTE.—It should be clearly understood that apart from the accommodation provided by the Salford Corporation, the accommodation referred to in the above summary is available for the residents of Manchester and contiguous areas. Reliable information as to the proportionate use of outside Institutions by Salford residents is not available.

Destruction of Rats and Mice.

I am indebted to the Superintendent of the Lighting and Cleansing Department, Salford, for the following information, namely :—

As in previous years, the Professional Ratcatcher employed by the Lighting and Cleansing Committee of the Corporation has been fully employed during the year, there being constant requests for his services in the laying of poisons, baits, setting of traps, operating the gassing machine and advising as to the best means of ratproofing.

In the course of the year, 771 visits were made to dwelling-houses, shops, offices, schools, works, and stores, and 5,341 poisoned baits were laid, whilst 814 live rats were caught by traps, dogs, cats, etc.

The presence of rats on premises has in many cases been the means of drawing attention to sanitary defects, and in these cases the co-operation of the Medical Officer of Health and City Engineer has been sought, and the defects remedied.

The tips and dumps of the Corporation are kept under strict observation with a view to the prevention of the aggregation of rats.

At the request of the Ministry of Agriculture and Fisheries, Salford took part in the National Rat Week, which was held during the week commencing 2nd November. Although advertisements were placed in local papers and posters placarded on hoardings and public buildings of the City inviting the co-operation of owners and occupiers of premises, very few enquiries were received during Rat Week, due to the fact that it is becoming more generally known that the work of rat repression is carried on by the Department throughout the year.

(C)—GENERAL PROVISION OF HEALTH SERVICES.

Hospital Services.

The people of Salford avail themselves of the hospital accommodation provided by the Salford Corporation and of the voluntarily provided hospitals of both Salford and Manchester. The interleaved tabulation contains particulars of the hospital services available for Salford residents, distinguishing between hospitals provided by the Corporation and voluntary institutions.

No important changes in the hospital accommodation available for Salford residents at voluntary institutions occurred during 1931.

The following changes took place, however, in the accommodation provided at the Corporation's institutions :—

(*a*) Six additional beds for female patients suffering from tuberculosis were provided at the Ladywell Sanatorium ;

(*b*) six beds for women and children suffering from Venereal Diseases were provided at Hope Hospital in substitution for beds formerly maintained at the Venereal Diseases Treatment Centre.

Poor Law Relief.

The amount distributed by way of Poor Law relief in Salford during 1931 was £79,075.

Particulars relating to the Poor Law Medical Out-relief Districts are set out in the appended tabulation:—

MEDICAL OUT-RELIEF DISTRICTS.

No. of District.	Area served.	District Medical Officer.
1.	*District*—Such portion of the former Township of Salford as is comprised within the following boundary:—Commencing at a point in the River Irwell at the Salford Royal Hospital end of the Crescent, easterly along Whitecross Bank and Chapel Street, thence along St. Stephen Street, King Street, Norton Street, and Greengate to the River Irwell at the Salford Bridge; thence to the left along the River Irwell and the pre-existing Township boundary to the point first named.	Dr. Stanley Hodgson.
2.	*District*—All that part of the former Township of Salford comprised within the following boundary:—Commencing at Windsor Bridge, thence along the Manchester, Bury and Bolton Canal to the pre-existing boundary of the Townships of Salford and Pendleton, along such boundary through Peel Park to the River Irwell, along the River Irwell to a point nearest the Crescent, thence along the Crescent and Chapel Street to St. Stephen Street, along St. Stephen Street, King Street, Norton Street, Greengate and Chapel Street to Salford Bridge, to the right along the River Irwell to the Manchester, Bury and Bolton Canal, and along such Canal to the point first named.	Dr. Stanley Hodgson.
3.	*District*—All that part of the former Township of Salford comprised within the following boundary, viz.:—Commencing at Regent Bridge, along the centre of Regent Road, Trafford Road, and Broadway, to the site of the old Racecourse, thence along the northern boundary of such site to the Manchester Ship Canal, thence along the said Ship Canal and the River Irwell to the point first named.	Dr. S. J. Yeates.

No. of District.	Area Served.	District Medical Officer.
4.	*District*—Commencing at Windsor at the point dividing the former Townships of Pendleton and Salford, thence along the pre-existing Township boundary to the Manchester, Bury and Bolton Canal, along such Canal in a south-easterly direction to the River Irwell, along the River Irwell to Regent Bridge, thence along Regent Road to Trafford Road, along Trafford Road and Broadway and the north-west side of the site of the old Racecourse to the Manchester Ship Canal, along the said Ship Canal to the boundary of the former Townships of Pendleton and Salford; and thence along such boundary to the point first named.	Dr. S. J. Yeates.
5.	*District*—The whole of the former Township of Pendleton.	Dr. H. Yearnshaw.
6.	*District*—The whole of the former Township of Broughton.	Dr. T. Waycott Chaff.

This service is administered by the Public Assistance Committee, and I am informed by the Public Assistance Officer that no changes of note in its administration have occurred since 1st April, 1930.

Local Government Act, 1929.

In my report for the year 1930, I outlined the administrative arrangements which were made following the transfer to the Corporation, under the Local Government Act, 1929, of the functions of the former Board of Guardians. These arrangements continued to operate during 1931, and no alterations or developments of note occurred during that year.

Further consultations with representatives of Voluntary Hospitals under Section 13 of the Local Government Act, 1929, did not take place during 1931, as no additional provision for hospital accommodation was made during the year.

Vaccination.

As indicated in the section of this Report dealing with the Local Government Act, 1929, Vaccination was transferred to the Corporation as a public health function on 1st April, 1930.

The Public Vaccinators for Salford and their districts are as follows :—

Description.	District.	Public Vaccinator.
Salford (No. 1) District.	Such part of the Township of Salford as is comprised within the following boundary, namely: Commencing at the former Township boundary between Pendleton and Salford at Broad Street; along Windsor and the Crescent to Oldfield Road; along Oldfield Road to Regent Road; along Regent Road to Regent Bridge: thence in a northerly and westerly direction along the River Irwell to the boundary between the former Townships of Salford and Pendleton near Peel Park; thence along the boundary between such former Townships to the point first named.	Dr. V. Newton, 227, Oldfield Road, Salford.
Salford (No. 2)	Such part of the Township of Salford as is comprised within the following boundary, namely: Commencing at the boundary of the former Townships of Salford and Pendleton at New Windsor, Salford; along New Windsor and the Crescent to Oldfield Road; along Oldfield Road to Regent Road; along Regent Road to the River Irwell at Regent Bridge; thence in a southerly and westerly direction along the River Irwell and the Manchester Ship Canal to the boundary between the former Townships of Pendleton and Salford; thence along the boundary between such former Townships to the point first named.	Dr. S. J. Yeates, 1, Haworth Street, Cross Lane, Salford.
Pendleton District (Salford Township).	The whole of the former Township of Pendleton.	Dr. Herbert Yearnshaw, 305, Eccles New Road, Pendleton.
Broughton District (Salford Township).	The whole of the former Township of Broughton.	Dr. Thomas Waycott Chaff, "Limefield," 194, Broughton Lane, Broughton.

The Vaccination Officers are as follows:—

District.	Vaccination Officer.
North and South Salford Registration Sub-Districts.	Mr. A. Sharrocks, 143, Regent Road, Salford.
West Salford Registration Sub-District	Mr. C. F. Settle, 14, Broom Crescent, Pendleton, Salford.

Particulars as to vaccinations carried out in Salford during the year 1931 are as follows:—

PARTICULARS AS TO VACCINATION DURING 1931.

District.	No. of cases in birth lists.	No. of certificates of vaccination received.	No. of certificates of postponement owing to			No. of statutory declarations under Section 1 of the Vaccination Act, 1907.	No. of certificates of insusceptibility or of having had smallpox.	No. of cases		No. of entries in list sent to public vaccinator.
			Health of child.	Condition of house.	Prevalence of infectious disease.			Parents removed out of district.	Otherwise not found.	
NORTH....	841	839	102	—	—	172	2	19	22	304
SOUTH ...	988	1,051	223	—	—	135	4	24	23	344
WEST.....	1,538	1,163	36	—	—	202	7	76	25	120
TOTAL....	3,367	3,053	361	—	—	509	13	119	70	768

SECTION IIA.

Atmospheric Pollution.

Observations on Salford's atmospheric deposit, and on the strength of sunlight have been continued during the past year at four different observation stations, two of these stations being situated within the city, one (the Salford Smallpox Hospital at Drinkwater Park, Prestwich) just outside the city boundary, and the fourth (the Salford Tuberculosis Sanatorium) at Marple, Cheshire.

Salford's Atmospheric Deposit.

Excessive tar and excessive acidity appear to be the outstanding characteristics of Salford's atmospheric deposit, as compared with that of other areas which publish observations on the subject. There are now quite a large number of areas throughout the country in which observations on atmospheric deposit are taken, and supplied to the Department of Scientific and Industrial Research, which Department tabulates results and issues a yearly report dealing with the same. Figures in respect of the neighbouring city of Manchester are not available, but it is fair to assume that the Salford figures are fairly representative of the huge congested area of which it is a component. The authorities who collect atmospheric pollution data and supply the same to the Central Department for tabulation include London and many of the large industrial centres, such as Leeds, Sheffield, Birmingham, Glasgow, as well as seaside and country districts such as Southport and Rothamsted.

A comparison of the figures thus supplied and set forth in the most recent report of the Department of Scientific and Industrial Research, forms a very interesting study,

Atmospheric Tar.

Attention has been drawn in previous reports to the high proportion of tar in Salford's atmospheric deposit. In the *Report of the Central Department just referred to, a tabulation of the results obtained from 74 observation stations in 31 different areas shows that Salford (Regent Road), with a mean monthly **tar** deposit of approximately **one ton per square mile,** come second only to Walsall.

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* Department of Scientific and Industrial Research. The Investigation of Atmospheric Pollution. Report on observations in the year ended 31st March, 1931. Seventeenth Report.

Below are set forth tar figures for a few representative areas :—

Area.	Yearly deposit of Tar. (Tons per square mile.)
Walsall	16·8
Salford—	
Regent Road	13·2
Peel Park	7·9
Ladywell Sanatorium	7·1
London—	
Golden Lane	7·3
Wandsworth Common	2·4
Leeds—	
York Road	4·3
Headingley	1·2
Southport—	
Hesketh Park	1·8
Marsh Side	1·2

It will be seen from the above that the tar deposit in the Regent Road neighbourhood of Salford (13·2 tons per square mile per annum) is nearly twice as heavy as in Golden Lane, London (7·3 tons per square mile per annum), whilst Ladywell Sanatorium, Salford, has a yearly tar deposit (7·1 tons per square mile), three times as heavy as Wandsworth Common (2·4 tons per square mile) and six times as heavy as Headingley and Southport, Marsh Side (1·2 tons per square mile).

It is interesting to note that at Salford's Tuberculosis Sanatorium, Marple, the tar deposit was as high as 6·1 tons per square mile. As Marple is about 8¾ miles south east of Manchester Town Hall, it is well within the fringe of the smoke cloud produced by the Manchester group of towns.

The high tar content of the deposit in this area may be attributed to the imperfect combustion of bituminous Lancashire coal in hundreds of thousands of domestic grates. In the common practice of banking up the house fires with small coal in order to keep them burning slowly for a long period, large volumes of tarry smoke are discharged into the atmosphere.

Atmospheric Acidity.

During the past two years estimations of the acidity of atmospheric deposit have been carried out in Salford and certain other stations throughout the country. The actual acidity of the collected rain waters has been arrived at by titration, and, in addition, the pH value has been determined. The results, as published in the Report of the Department of Scientific and Industrial Research, are extremely interesting. Salford's rain water showed a higher acidity than that of any other station concerned; not only so, but the acidity was present in every month of the year. The following table shows the acidity of the atmospheric deposit at certain stations carrying out such observations :—

Station.	Acidity in ~~terms~~ tons of sulphuric acid deposited per square mile per annum.
Salford—	
Regent Road	24·0
Peel Park	20·8
Ladywell Sanatorium	22·0
Rochdale—	
Electricity Works	17·7
Town Hall	14·7
Sheffield—	
Allercliffe	14·9
Nethergreen	6·4
Surrey Street	7·5
London—	
Southwark Park	2·4
Finsbury Park	1·5
Wandsworth Common	1·1

The high acidity figure obtained in the case of all three Salford observation stations is fully confirmed by the pH value estimation. The pH value in the Salford stations is lower than that of any other station carrying out such observations, which means, of course, that the acidity is highest.

Local pre-eminence in the matter of atmospheric acidity may be largely due to the burning in Salford and neighbouring towns of huge quantities of Lancashire coal with a high sulphur content.

This high atmospheric acidity is undoubtedly a matter of concern. It has a bearing upon the corrosion suffered by metal work and stone work. It has an even more important bearing upon the health of the population. It is likely that much of the catarrh of respiratory passages, so prevalent in the neighbourhood, may arise through irritation set up by sulphur acids in the atmosphere.

Atmospheric Pollution and Respiratory Mortality.

In previous annual reports attention has been drawn to the relatively high bronchitis death rate in Salford and the "Manchester group of towns," where serious atmospheric pollution exists. There can be little doubt that atmospheric impurity is directly connected with increased bronchitis mortality.

Quite recently it has been suggested that cancer of the lung may be set up by atmospheric pollution—more particularly the tarry constituent. In order to find out what support mortality statistics lend to this view, lung cancer mortality figures in respect of all the county boroughs of

England and Wales for the ten years 1921 to 1930 were obtained from the Registrar General. A preliminary study of the above data failed to reveal the same close connection which has been found to exist between bronchitis and atmospheric impurity, though it did seem that, generally speaking, seaside towns were freer from lung cancer than inland towns ; for example, whereas in Liverpool the lung cancer deaths for the ten years totalled 198, the Manchester total for the same period was 295.

In the following lung cancer mortality table, the county boroughs of England and Wales have been collected into two groups—(*a*) coastal towns (25 in number), and (*b*) non-coastal towns (58 in number) :—

RATES PER MILLION OF DEATHS FROM CANCER OF THE LUNG IN THE COUNTY BOROUGHS OF ENGLAND AND WALES DURING THE TEN YEARS 1921–1930.

County Borough.	Aggregate of Population during ten years 1921-1930.	Deaths from Cancer of Lung during ten years 1921-1930.	Rate per million of Population.
County Boroughs on Sea Coast :			
Birkenhead	1,542,300	25	16·21
Wallasey	937,670	19	20·26
Plymouth	2,082,500	29	13·93
South Shields	1,222,030	10	8·18
Sunderland	1,693,800	24	14·17
West Hartlepool	704,090	8	11·36
Southend-on-Sea	1,024,030	27	26·37
Barrow	709,410	10	14·10
Blackpool	859,650	30	34·90
Bootle	815,730	19	23·29
Liverpool	7,656,900	198	25·86
Southport	758,580	21	27·68
Grimsby	878,370	13	14·80
Newport	956,180	4	4·18
Great Yarmouth	576,060	12	20·83
Tynemouth	656,760	8	12·18
Bournemouth	889,520	34	38·22
Portsmouth	2,515,900	38	15·10
Southampton	1,682,400	28	16·64
Brighton	1,403,702	29	20·66
Eastbourne	557,810	21	37·65
Hastings	610,420	15	24·57
Kingston-upon-Hull	2,974,700	53	17·82
Cardiff	2,215,623	29	13·09
Swansea	1,460,100	28	19·18
Total	37,284,235	732	19·63

County Borough.	Aggregate of Population during ten years 1921-1930.	Deaths from Cancer of Lung during ten years 1921-1930.	Rate per million of Population.
County Boroughs not on Sea Coast:			
Reading	946,040	17	17·97
Chester	413,460	10	24·19
Stockport	1,262,000	17	13·47
Carlisle	553,840	4	7·22
Derby	1,361,100	17	12·49
Exeter	610,020	19	31·15
Gateshead	1,264,000	22	17·40
Darlington	698,310	4	5·73
West Ham	3,114,600	102	32·75
East Ham	1,462,900	42	28·71
Bristol	3,871,130	77	19·89
Gloucester	526,370	6	11·40
Canterbury	240,020	8	33·33
Blackburn	1,266,076	16	12·64
Bolton	1,806,800	22	12·18
Burnley	921,100	11	11·94
Bury	572,280	5	8·74
Manchester	7,519,600	295	39·23
Oldham	1,449,900	15	10·35
Preston	1,235,600	18	14·57
Rochdale	918,120	21	22·87
St. Helens	1,088,100	15	13·79
Salford	2,412,000	62	25·70
Warrington	789,460	8	10·13
Wigan	896,570	9	10·04
Leicester	2,421,100	48	19·83
Lincoln	663,580	10	15·07
Norwich	1,819,360	28	15·39
Northampton	935,160	14	14·97
Newcastle-on-Tyne	2,842,200	41	14·43
Nottingham	2,680,800	98	36·56
Oxford	607,360	21	34·58
Bath	691,940	19	27·46
Burton-on-Trent	492,940	8	16·23
Smethwick	798,270	24	30·07
Stoke-on-Trent	2,736,903	31	11·33
Walsall	1,009,290	21	20·81
West Bromwich	791,070	18	22·75
Wolverhampton	1,175,330	25	21·27
Ipswich	837,510	6	7·16
Croydon	2,057,600	64	31·10
Birmingham	9,533,880	351	36·82
Coventry	1,390,100	19	13·67
Dudley	585,990	7	11·95
Worcester	506,510	8	15·79
York	860,090	29	33·72
Middlesbrough	1,344,280	28	20·83
Bradford	2,910,000	70	24·05
Halifax	984,410	27	27·43
Huddersfield	1,123,300	76	67·66
Leeds	4,733,655	214	45·21
Rotherham	703,970	12	17·05
Sheffield	5,199,795	225	43·27
Barnsley	697,261	13	18·64
Dewsbury	541,930	14	25·83
Wakefield	550,614	8	14·53
Doncaster	239,410	10	41·77
Merthyr Tydfil	805,500	4	4·97
Total	92,470,504	2,433	26·31
Total for all County Boroughs.	129,854,739	3,165	24·37

It will be seen from the foregoing tabulation that, whereas the lung cancer death rate for the whole of the coastal towns is 19·63 per million, for the non-coastal towns it is 26·31 per million. In other words, lung cancer mortality is 34 per cent greater in the inland county boroughs. In the seaside group the highest mortality appears in Bournemouth, Eastbourne and Blackpool ; in the non-seaside group, the Yorkshire towns, Huddersfield, Leeds and Sheffield head the mortality list. Apart from the higher mortality in inland towns generally, as compared with seaside towns, the connection between atmospheric pollution and lung cancer is not very evident.

On the other hand in the case of bronchitis, whilst the mortality in inland towns as a whole is not very much greater than in seaside towns (the difference being about 8 per cent), the relation between atmospheric impurity and bronchitis mortality is very close, as will be seen from the following table :—

RATES PER MILLION OF DEATHS FROM BRONCHITIS IN THE COUNTY BOROUGHS OF ENGLAND AND WALES DURING THE TEN YEARS 1921–1930.

County Borough.	Aggregate of Population during ten years 1921-1930.	Deaths from Bronchitis during ten years 1921-1930.	Rate per million of Population.
County Boroughs on Sea Coast :			
Birkenhead	1,542,300	1,257	815·02
Wallasey	937,670	476	507·64
Plymouth	2,082,500	2,108	1,012·24
South Shields	1.222,030	1,417	1159·55
Sunderland	1,693,800	2,252	1329·56
West Hartlepool	704,090	614	872·05
Southend-on-Sea	1,024,030	721	704·08
Barrow	709,410	725	1021·98
Blackpool	859,650	798	928·28
Bootle	815,730	609	746·57
Liverpool	7,656,900	8,157	1065·31
Southport	758,580	708	933·32
Grimsby	878,370	689	784·41
Newport	956,180	667	697·57
Great Yarmouth	576,060	447	775·96
Tynemouth	656,760	534	813·08
Bournemouth	889,520	504	566·60
Portsmouth	2,515,900	1,789	711·08
Southampton	1,682,400	1,182	702·57
Brighton	1,403,702	1,100	783·64
Eastbourne	557,810	286	512·72
Hastings	610,420	368	602·86
Kingston-upon-Hull	2,974,700	2,839	954·38
Cardiff	2,215,623	1,988	897·26
Swansea	1,460,100	1,374	941·03
Total	37,284,235	33,609	901·43

County Borough.	Aggregate of Population during ten years 1921-1930.	Deaths from Bronchitis during ten years 1921-1930.	Rate per million of Population.
County Boroughs not on Sea Coast:			
Reading	946,040	758	801·23
Chester	413,460	386	933·58
Stockport	1,262,000	1,341	1062·60
Carlisle	553,840	339	612·09
Derby	1,361,100	1,254	921·31
Exeter	610,020	607	995·05
Gateshead	1,264,000	1,299	1,027·69
Darlington	698,310	442	632·96
West Ham	3,114,600	3,046	977·97
East Ham	1,462,900	1,109	758·08
Bristol	3,871,130	2,777	717·36
Gloucester	526,370	524	995·50
Canterbury	240,020	184	766·60
Blackburn	1,266,076	1,413	1116·04
Bolton	1,806,800	2,156	1193·26
Burnley	921,100	1,293	1403·76
Bury	572,280	758	1324·52
Manchester	7,519,600	10,243	1362·17
Oldham	1,449,900	2,184	1506·31
Preston	1.235,600	1,239	1002·75
Rochdale	918,120	1,262	1374·55
St. Helens	1,088,100	1,062	976·01
Salford	2,412,000	2,989	1239·22
Warrington	789,460	792	1003·22
Wigan	896,570	1,412	1574·89
Leicester	2,421,100	1,880	776·51
Lincoln	663,580	614	925·28
Norwich	1,819,360	938	515·97
Northampton	935,160	907	969·89
Newcastle-upon-Tyne	2,842,200	2,345	825·07
Nottingham	2,680,800	2,841	1059·76
Oxford	607,360	435	716·21
Bath	691,940	490	708·15
Burton-on-Trent	492,940	477	967·66
Smethwick	798,270	551	690·24
Stoke-on-Trent	2,736,903	3,381	1235·34
Walsall	1,009.290	992	982·87
West Bromwich	791,070	879	1111·15
Wolverhampton	1,175,330	1,251	1064·38
Ipswich	837,510	655	782·08
Croydon	2,057,600	1,122	545·30
Birmingham	9,533,880	7,834	821·70
Coventry	1,390,100	979	704·27
Dudley	585,990	846	1443·71
Worcester	506,510	376	742·33
York	860,090	616	716·20
Middlesbrough	1,344,280	1,177	875·56
Bradford	2,910,000	2,835	974·23
Halifax	984,410	1,074	1091·01
Huddersfield	1,123,300	1,164	1036·23
Leeds	4,733,655	4,415	932·68
Rotherham	703,970	580	823·90
Sheffield	5,199,795	4,262	819·65
Barnsley	697,261	888	1273·55
Dewsbury	541,930	941	1736·39
Wakefield	550,614	552	1002·52
Doncaster	239,410	166	693·37
Merthyr Tydfil	805,500	898	1114·84
Total	92,470,504	90,230	975·77
Total for all County Boroughs.	129.854.739	123,839	953·67

As already indicated, whilst lung cancer mortality is 34 per cent greater in inland as compared with seaside towns, bronchitis mortality is only 8 per cent greater in the inland towns, but a comparison of the figures for the individual areas at once reveals the close relationship between bronchitis and atmospheric impurity, as witness the following:—

There are 12 county boroughs in England and Wales with an average bronchitis mortality of over 1,200 per million. Of these twelve, five belong to the "Manchester group," namely, Manchester (1,362·17), Salford (1,239·22), Oldham (1,506·31), Bury (1,324·52) and Rochdale (1,374·55). The tar content and acidity of the "Manchester group" atmosphere are probably as high as any in the country.

On the other hand there are four county boroughs in England and Wales with an average bronchitis mortality of less than 600 per million. These are Wallasey (507·64), Bournemouth (566·60), Eastbourne (512·72) and Norwich (515·97). The striking difference in the atmosphere of the latter towns and the "Manchester group" is reflected in the bronchitis mortality. In this connection, the proud position occupied by Wallasey (which is not very far away) lends support to the view that catarrhal conditions of the respiratory tract are much less dependent on geographical than upon artificial conditions, namely, pollution of the atmosphere.

Observations on the Strength of Sunlight.

During the past year measurements of the strength of sunlight at four different stations, by means of the Potassium Iodide test, have been continued. The results of these observations are set forth on page 161 of the City Analyst's section of this report. In addition, observations on the strength of sunlight have been carried out at Regent Road by the photographic method devised by Dr. Ashworth, of Rochdale. A comparison of the results obtained by this method and the Potassium Iodide method proves very interesting, and is being continued at the present time. Suffice it to say at this point that, in comparing the daylight charts obtained by these two very distinct methods, the variations show a fairly close correspondence.

SECTION III.

Infectious Diseases.

The number of notifications of cases of infectious disease received during 1931 was 2,461, as compared with 2,753 received during 1930, a reduction of 292.

Diphtheria was not so prevalent during 1931 as in 1930, and 154 fewer cases were notified. The same remark applies to Scarlet Fever, of which disease 478 cases were notified, a decrease of 201 on the number notified in 1930. Only 7 cases of Enteric Fever were notified in 1931 as compared with 25 in 1930.

The number of cases of pneumonia, both primary and influenzal, showed an increase; these were as follows:—

	1930.		1931.
Acute primary pneumonia	422	..	486
Influenzal pneumonia	49	..	120

27 cases of Pemphigus Neonatorum were notified in 1931, as against 6 in 1930.*

Details of the number of cases of infectious disease notified are given in Tables 1 and 2 (pages 57 to 59).

The usual methods, described in previous Reports, for the prevention of the spread of infectious diseases were continued. School teachers, in addition, are encouraged to report cases of non-notifiable disease, which are at once investigated by the School Medical Officers. Diphtheria Antitoxin is supplied immediately, free of charge, to any Medical Practitioner who applies for it. This arrangement is used freely by Salford Medical Practitioners.

Cases of infectious disease which cannot be isolated at home are removed to the Corporation's Infectious Diseases Hospital, the Ladywell Sanatorium (for detailed report upon this Institution, see pages 75 to 96). The disinfection of premises in which cases of infectious disease have occurred is carried out by a special staff of disinfectors. Bedding and clothing which have been exposed to infection are disinfected at the Corporation's Disinfecting Station at Mode Wheel; details of the work carried out at this Station appear on page 31.

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* This subject is dealt with at greater length on p. 176 of this Report.

CASES OF INFECTIOUS DISEASES NOTIFIED DURING THE YEAR 1931.

Notifiable Diseases.	Cases notified in Whole District.								Total Cases notified in each Ward.																Cases removed to Hospital.
	At All Ages.	At Ages—Years.																							
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 and upwards.	Albert Park.	Charlestown.	Claremont.	Crescent.	Docks.	Kersal.	Langworthy.	Mandley Park	Ordsall Park.	Regent.	St. Matthias'.	St. Paul's.	St. Thomas'.	Seedley.	Trinity.	Weaste.	
Smallpox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria (including Membranous croup)	582	17	145	334	57	26	3	..	27	39	6	50	25	21	26	81	46	54	18	45	62	16	27	39	572
Erysipelas..........	113	4	1	8	15	26	43	16	7	8	1	4	5	9	11	3	5	7	9	12	6	4	14	8	63
Scarlet fever	478	3	138	268	49	19	1	..	40	40	21	33	19	40	22	46	39	26	40	23	18	10	32	29	432
Typhus fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric fever	7	..	1	2	..	4	..	..	..	..	..	..	..	1	..	..	..	..	..	2	..	1	1	2	7
Continued fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Relapsing fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal fever	18	..	..	..	2	16	..	..	1	1	..	..	1	1	..	2	1	1	1	3	3	1	1	1	7
Puerperal Pyrexia ..	25	..	..	..	8	17	..	..	3	1	..	1	..	..	..	..	1	4	1	2	5	2	3	2	3
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cerebro-Spinal Meningitis	4	..	2	2	..	..	..	..	..	1	..	..	1	..	..	..	1	..	..	..	..	..	1	..	2
Acute-Poliomyelitis..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Anthrax	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Glanders	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ophthalmia Neonatorum	13	13	..	..	..	..	..	..	1	..	..	1	..	..	..	..	1	2	1	2	4	..	1	..	..
Pulmonary tuberc'lsis	446	..	4	28	126	179	97	12	35	19	11	31	38	25	12	39	23	45	36	21	31	13	43	24	507
Other forms of tuberculosis	139	2	13	50	40	22	12	..	12	6	1	16	6	8	6	10	10	10	15	13	7	2	13	4	35
Malaria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dysentery..........	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Acute Primary Pneumonia	486	77	144	90	42	73	45	15	27	28	8	74	12	8	18	20	22	37	46	49	63	7	48	19	3
Influenzal Pneumonia	120	4	12	9	16	38	31	10	9	3	6	11	3	1	6	5	7	5	5	22	19	1	4	8	..
Encephalitis Leth. ..	3	..	..	1	1	1	..	..	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Acute Polio Encephalitis..........	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pemphigus Neonatorum	27	27	..	..	..	..	..	..	1	1	..	3	1	..	..	3	3	..	2	1	..	..	1	11	1
Total	**2461**	**147**	**460**	**792**	**356**	**421**	**232**	**53**	**163**	**153**	**56**	**224**	**111**	**114**	**101**	**209**	**159**	**191**	**174**	**195**	**218**	**57**	**189**	**147**	**1634**

TABLE I. 2.

Showing the Number of Cases of Infectious Disease Notified to the Health Department during the Years 1883 to 1931.

Year.	Smallpox.	Scarlet Fever.	Diphtheria.	Fever.					Erysipelas.	Cholera.	Plague.	Anthrax.	Glanders.	Cerebro-Spinal Meningitis.	Acute Poliomyelitis.	Ophthalmia Neonatorum.	Measles.	Tuberculosis.		Total.
				Enteric.	Typhus.	Continued.	Relapsing.	Puerperal.										Pulmonary.	Non-Pulmonary.	
1883	6	805	81	293	14	..	..	21	..	..	..	..	..	..	..	..	..	..	..	1220
1884	5	1154	99	422	35	..	..	14	..	..	..	..	..	..	..	..	..	..	..	1729
1885	11	632	54	205	32	..	..	15	..	..	..	..	..	..	..	..	..	..	..	949
1886	..	1536	41	288	5	..	..	12	..	..	..	..	..	..	..	..	..	..	..	1882
1887	4	1427	83	368	7	..	..	11	..	..	..	..	..	..	..	..	..	..	..	1900
Average 5 years	**5**	**1111**	**72**	**315**	**19**	..	..	**15**	..	..	..	..	..	..	..	..	..	..	..	**1537**
1888	52	1128	175	572	31	..	..	26	..	..	..	..	..	..	..	..	..	..	..	1984
1889	..	1283	691	485	3	..	..	14	..	..	..	..	..	..	..	..	..	..	..	2476
1890	..	985	704	383	6	4	..	22	76	..	..	..	..	..	..	..	..	..	..	2180
1891	..	483	231	377	1	6	..	13	53	..	..	..	..	..	..	..	..	..	..	1164
1892	7	865	231	347	5	5	..	26	86	..	..	..	..	..	..	..	..	..	..	1572
Average 5 years	**12**	**948**	**406**	**433**	**9**	**3**	..	**20**	**43**	..	..	..	..	..	..	..	..	..	..	**1874**
1893	168	865	261	563	5	12	..	30	147	..	..	..	..	..	..	..	..	..	..	2051
1894	35	1043	242	316	1	14	..	21	130	..	..	..	..	..	..	..	..	..	..	1802
1895	4	1167	194	382	..	11	..	19	111	..	..	..	..	..	..	..	..	..	..	1888
1896	2	1579	158	291	7	12	..	24	114	..	..	..	..	..	..	..	..	..	..	2187
1897	..	714	103	291	..	14	..	13	121	..	..	..	..	..	..	..	..	..	..	1256
Average 5 years	**42**	**1074**	**192**	**369**	**3**	**13**	..	**21**	**125**	..	..	..	..	..	..	..	..	..	..	**1836**
1898	..	659	97	367	16	14	..	31	146	..	..	..	..	..	..	..	..	..	..	1330
1899	..	723	184	273	3	20	..	26	153	..	..	..	..	..	..	..	..	..	..	1382
1900	6	1317	309	335	2	8	..	21	179	..	..	..	..	..	..	..	..	..	..	2177
1901	..	1320	420	317	1	8	..	33	230	..	..	..	..	..	..	..	..	..	..	2329
1902	23	780	292	207	43	6	..	16	164	..	..	..	..	..	..	..	..	..	..	1531
Average 5 years	**6**	**960**	**260**	**300**	**13**	**11**	..	**25**	**174**	..	..	..	..	..	..	..	..	..	..	**1750**
1903	175	737	335	178	..	1	..	13	161	..	..	..	..	..	..	..	..	..	..	1600
1904	57	1043	422	202	10	7	..	21	168	..	..	..	..	..	..	..	..	..	..	1930
1905	3	960	363	142	..	7	..	26	176	..	..	..	..	..	..	..	..	..	..	1677
1906																				

Year.	†Chicken-pox	Smallpox.	Scarlet Feve	Diphtheria.	Fever.				Puerperal Pyrexi	Pemphigus Neonatorum	Erysipelas.	Anthrax.	Cerebro-Spina Meningitis.	Acute Poliomyelitis	Ophthalmia Neonatorum.	* Measles.	Tuber- culosis.		Trench Feve	Malaria.	Acute Polio Encephalitis.	Dysentery.	Acute Primary Pneumonia.	Influenzal-Pneumonia.	Encephalitis Lethargica.	Total.
					Enteric.	Typhus.	Con-tinued.	Puerperal.									Pul-monary.	Non-Pul-monary.								
1908	..	..	1341	629	181	..	7	27	..	..	127	..	..	..	..	..	563	..	..	..	..	..	..	..	..	2875
1909	..	..	1577	562	138	..	2	26	..	..	182	..	..	..	..	..	581	..	..	..	..	..	..	..	..	3068
1910	..	..	909	333	113	..	..	24	..	..	129	..	..	..	..	..	651	..	..	..	..	..	..	..	..	2159
1911	..	..	911	375	108	..	1	24	..	..	217	..	..	..	..	..	714	..	..	..	..	..	..	..	..	2350
1912	..	..	541	242	76	..	7	26	..	..	181	..	1	29	..	..	1073	..	..	..	..	..	..	..	..	2206
Average 5 years	..	..	**1056**	**428**	**123**	..	**3**	**25**	..	..	**167**	..	..	..	..	..	**716**	..	..	..	..	..	..	..	..	**2532**
1913	..	4	1224	336	113	..	1	17	..	..	203	3	4	2	..	..	1206	503	..	..	..	..	..	..	..	3616
1914	..	1	2336	352	63	..	..	20	..	..	248	1	3	5	80	..	1126	236	..	..	..	..	..	..	..	4471
1915	..	1	997	236	84	..	..	23	..	..	172	..	9	7	97	..	816	195	..	..	..	..	..	..	..	2637
1916	..	8	442	204	47	..	..	13	..	..	124	..	9	1	60	2065	745	241	..	..	..	..	..	..	..	3959
1917	..	..	200	183	40	..	..	2	..	..	91	..	2	2	43	3100	575	213	..	..	..	..	..	..	..	4401
Average 5 years	..	**3**	**1040**	**252**	**69**	..	**1**	**15**	..	..	**167**	**1**	**5**	**3**	**70**	**2582**	**893**	**278**	..	..	..	..	..	..	..	**3817**
1918	..	..	289	148	42	..	..	17	..	..	92	..	2	2	53	766	556	143	..	..	..	..	..	..	..	2110
1919	..	4	663	211	20	..	..	32	..	..	131	..	6	3	85	2689	583	107	2	117	..	56	..	365	4	5078
1920	..	1	1124	334	49	..	1	40	..	..	135	..	10	1	116	..	574	120	..	42	..	8	..	230	6	2791
1921	..	..	1746	313	41	..	2	19	..	..	146	..	9	..	81	..	553	102	..	11	..	1	..	394	7	3425
1922	..	..	1275	359	37	..	..	25	..	..	141	..	4	..	72	..	510	101	..	6	..	..	..	426	1	2957
Average 5 years	..	**1**	**1019**	**273**	**37**	..	**1**	**26**	..	..	**129**	..	**6**	**1**	**81**	**1727**	**555**	**115**	**1**	**35**	..	**13**	..	**283**	**4**	**3272**
1923	..	..	868	304	27	..	..	22	..	..	98	1	5	1	57	..	547	125	..	4	..	1	114	86	8	2268
1924	..	..	403	286	26	..	..	18	..	..	89	..	4	1	56	..	557	87	..	1	2	1	461	138	59	2189
1925	1145	..	510	376	30	..	..	17	..	..	134	..	2	1	60	..	507	132	..	1	1	..	409	132	27	3484
1926	..	..	720	533	10	..	..	20	12	24	140	..	3	4	50	..	532	123	..	1	4	..	363	99	13	2651
1927	..	1	631	507	9	..	..	7	27	16	120	..	5	4	48	..	573	148	..	2	..	2	465	158	17	2740
Average 5 years (excluding Chicken pox)	..	**1**	**626**	**401**	**20**	..	..	**17**	**20**	**20**	**116**	**1**	**4**	**2**	**54**	.	**543**	**123**	..	**2**	**1**	**1**	**362**	**123**	**25**	**2437**
1928	..	5	822	425	20	..	1	19	28	11	139	..	13	..	55	..	454	166	..	1	..	..	458	80	12	2709
1929	..	..	635	678	9	..	..	16	18	10	150	..	5	2	35	..	522	112	..	..	..	..	658	168	9	3027
1930	..	7	679	736	25	..	1	13	30	6	158	..	2	..	33	..	454	130	..	..	..	..	422	49	8	2753
1931	..	..	478	582	7	..	..	18	25	27	113	..	4	..	13	..	446	139	..	..	..	..	486	120	3	2461

***Measles notifiable in Salford 1916 to 1919.** † Chicken-pox notifiable in Salford, January 22nd to December 31st, 1925.

TUBERCULOSIS.

Dispensary.

The Tuberculosis Dispensary is situate at Nos. 145 and 147, Regent Road, Salford. There are no branch dispensaries or visiting stations. The staff consists of two Medical Officers, four Health Visitors and three Clerks.

(a) Patients referred for Examination.

Eight hundred and one patients (including non-pulmonary cases) were referred to the Tuberculosis Officers for examination by general practitioners during 1931. It is to be regretted that, in many cases, primary notifications of tuberculosis are received when the disease is in such an advanced state that no treatment can be of lasting value, but during 1930 some improvement took place in this connection and which has continued during 1931, and more early and suspected cases have been sent in by the General Practitioners than in previous years. It is only by the co-operation of the general practitioners that the Tuberculosis Officers can deal with cases in their earliest and, therefore, most curable stages.

The fact that many cases of Pulmonary Tuberculosis reach a comparatively advanced stage before notification is very often due to the late period at which the patient seeks the advice of the general practitioner. It is worthy of note that in a number of medical practitioners' reports accompanying such advanced cases to the Dispensary, occur the words "I have only seen this patient for the first time a few days ago."

It is a remarkable fact that Pulmonary Tuberculosis can reach widespread distribution in the lungs without producing symptoms sufficiently striking to cause the person affected to seek advice, and it is often difficult to make the patient and his friends believe that serious disease is present in his chest.

Improvement in this respect can only be brought about by propaganda work, and all opportunities are taken by the Tuberculosis Officer to give lectures and talks and by window displays at the Health Office to bring before the public a knowledge of the early signs of Tuberculosis.

At the same time it cannot be too strongly emphasised that inadequate medical examination when the patient first consults his doctor is bound to result in failure to recognise tuberculosis at an early or curable stage.

It is pleasing to note that the percentage of cases of pulmonary tuberculosis not notified before death has decreased from 16·73 per cent in 1930 to 13·8 per cent in 1931, and that the percentage of fatal cases notified within three months of death shows a slight decrease on the previous year's figure. (*See Table 11*).

A point of first importance, and one that is frequently neglected is the sending of samples of the patient's sputum for examination for the presence of Tubercle Bacilli in all cases of persistent cough which does not yield soon to ordinary treatment.

It is satisfactory to note that some improvement in the sending of specimens is taking place. Six hundred and seventy-four samples of sputum were examined for general practitioners in 1931, as against six hundred and seventeen in 1930.

All sputum examinations desired by Medical Practitioners are made free of charge at the Municipal Pathological Laboratory, and special sterile metal containers are provided for this purpose.

(b) Routine Procedure.

When a patient is notified to this Department by a Medical Practitioner as suffering from tuberculosis in any form whatever, the home of such patient is immediately visited by one of the Health Visitors. Precautions as to the likelihood of the spread of infection, the desirability of separate sleeping accommodation, etc., are advised, and efforts are made to secure the attendance at the Dispensary of all contacts residing in the same house. Three hundred and seventy-five such contacts were examined last year.

It happens not infrequently that a diagnosis cannot be made on first examination of a patient at the Dispensary, and in all such cases the patients are re-invited to attend the Dispensary periodically until a definite diagnosis is made.

In some cases of advanced disease where removal to an Institution for treatment is impracticable, and adequate nursing is impossible under the patient's home conditions, arrangements are made with the District Nursing Association, and the patients are visited daily (in some cases twice daily) in their homes by a trained nurse. In the case of patients in poor circumstances and recommended by the Tuberculosis Officers as being suitable for the granting of extra nourishment, arrangements are made with milk dealers in the City for milk and eggs to be supplied each day.

The usual types of cases receiving extra nourishment are: (*a*) patients who have received an adequate course of sanatorium treatment and whose medical condition is such that, with the grant of extra nourishment, they may be expected to maintain or recover full working capacity: and (*b*) patients in whose cases ultimate arrest of the disease may reasonably be anticipated, and who are waiting for admission to a sanatorium.

Owing to the economic depression during the past year, more cases have had to be assisted with extra nourishment than usual. It is found that when patients are discharged from the Sanatorium where they have been receiving adequate nourishment to homes where the food supply is quite inadequate, they soon begin to lose weight, their resistance is lowered, and the disease is very liable to become active again.

(c) X-Ray Examinations.

The efficiency of a Tuberculosis Dispensary is greatly enhanced by its equipment with a modern X-ray installation. A powerful set (100 M.A. single valve unit) is installed at the Dispensary, with all necessary accessories, and X-ray examinations are made in large numbers.

Every new case sent for investigation is carefully screened after physical examination, and in most cases a skiagram of the chest or other part is taken.

This method of examination is an invaluable aid not only for purposes of diagnosis but in obtaining information as to the real extent of the disease in the lungs, bones or joints of the patient. It is also of great value in determining the results of treatment. One thousand seven hundred and forty-three X-ray examinations were made last year. These examinations have been found of great value to General Practitioners in the differentiation of other chronic diseases of the lung simulating tuberculosis, many of which in the past have been diagnosed as cases of pulmonary tuberculosis. It should also be noted that considerable time is now saved in making a definite diagnosis of chest diseases, and patients are not required to be kept under observation for periods of longer than one or two months before a final decision is made.

Much public money and loss of the patients' time is saved also by obviating the sending of suspected cases to the Sanatorium for periods of observation where the physical signs in the lungs simulate those of pulmonary tuberculosis. By means of the X-rays the differential diagnosis of such cases is made enormously easier.

In the X-ray Department has been installed a reducing camera, and when a radiogram showing tuberculous disease is taken, a reduced sized photographic copy is sent to the General Practitioner. In order that he may have an accurate knowledge of the condition and extent of the disease, careful notes describing the condition are filled in on the back of the photograph.

Many letters of appreciation have been received from Medical Practitioners regarding this new development, which is undoubtedly of great assistance to the doctor attending the patient.

Advances in the X-ray diagnosis of diseases of the chest are constantly being made, and one of the latest is the making of stereoscopic skiagrams. A commencement in this direction is now being made at the Dispensary with the installation of a Wheatstone Stereoscope for the examination of films taken by this method.

(d) Treatment by Artificial Pneumothorax.

The greatest advance of recent years in the treatment of Pulmonary Tuberculosis is the more universal use of Artificial Pneumothorax or collapse of the lung.

This method of treatment was begun here three and a half years ago, and sufficient experience has now been obtained to warrant considerable confidence in its efficacy in suitable cases.

Primary inductions are carried out both at Ladywell and Nab Top Sanatoria, and refills are continued there for six months or longer, according to the time the patient is able to remain in the Sanatorium.

Usually after six months in straightforward cases the patient can return home, and the refills are continued at the Dispensary. Many cases have returned to work and have refills at intervals of two to four weeks according to absorption of air.

The opportunity is here taken to express appreciation of the action of those employers who allow their employees to attend for refills when required. Unfortunately, some employers have refused such permission and have discharged patients from their employ. As the collapse of the lung must be kept up for at least three years, the number of patients requiring refills is constantly growing, and it is becoming a serious problem to find the time and personnel for this work in addition to the routine work of the Dispensary.

It is a revelation to see the rapid improvement caused in these patients after the lung is collapsed, and it is hoped that a considerable number will be eventually cured. It is noteworthy that some recent French statistics based on 226 cases show that over 80 per cent of the patients were cured in three or four years' treatment by this method.

Not the least important result of this method of treatment is the rapid disappearance of Tubercle Bacilli from the sputum, so that the return of the patient to his or her home does not entail any risk of infection to other members of the family.

The ideal case for this treatment is one in which the disease is confined to one lung only, but those in which there is a small amount of disease in the contra-lateral lung are also suitable. In the latter type of case it is often found that after collapse of the worse side, the disease on the other side also begins to heal. This is due to the increased resistance of the patient caused by the removal of the toxins from the blood which were previously absorbed from the badly-diseased side.

Where the disease in the contra-lateral lung does not improve, treatment by injections of Sanocrysin (Gold Thiosulphate) into a vein has been found of considerable value, and a few cases have been treated in this way during the past year.

A few cases of more advanced disease unsuitable for collapse therapy have been treated by Sanocrysin, but no permanent benefit has been obtained.

Analysis of Cases given Artificial Pneumothorax Treatment.

Total number of cases	69 (Males 33, Females 36)
(*a*) Recovered (with lung returned to normal position)	1
(*b*) Cases abandoned (after 1-3 months' collapse treatment) owing to adhesions or due to patient's refusing to continue treatment	22
(c) Cases who have died	10
(*d*) Cases at home, in good health and whose refills are being continued at the Dispensary. (Nine of these are in regular employment)	21
All of the above except one have negative sputa.	
(*e*) Cases in Ladywell and Nab Top Sanatoria who are undergoing collapse therapy and are doing well	15

As collapse therapy has been undertaken only during the past three and a half years, one case only can as yet be reported recovered, but a number of others are approaching the time for termination of the treatment. It must be noted that none of the above sixty-nine cases could be cured by any other known method of treatment owing to the extent and condition of the disease when first seen.

(e) Insured Persons.

Insured patients not in need of Institutional treatment are usually placed on domiciliary treatment, that is to say, they are treated by their own doctors whilst residing at home, and records of progress should be furnished every three months by the attending Medical Practitioners on Form G.P. 36. These patients are examined from time to time by one of the Tuberculosis Officers, and a report furnished to the Practitioner concerned.

(f) Dispensary Treatment.

Non-insured patients suffering from chronic disease who are unsuitable for Sanatorium treatment or who have received Institutional treatment and are now ambulant, and who are too poor to pay a General Practitioner, are treated at the Dispensary by Cod Liver Oil Emulsions or suitable drugs.

The condition of these persons depends to a large extent on the home conditions, the facilities for obtaining suitable food and the general habits of the patient. Their disease appears to remain stationary for long periods, especially when they are of middle age or over and when the acute stage of the disease is past.

INSTITUTIONAL TREATMENT.

(a) Nab Top and Ladywell Sanatoria.

The residential institutions in connection with the Tuberculosis scheme are :—

(*a*) Nab Top Sanatorium, Marple.
(*b*) Ladywell Sanatorium, Salford.

There are 120 beds available at the Nab Top Sanatorium, Marple, for the treatment of Salford patients. These beds are occupied principally by observation, early, and intermediate cases of pulmonary tuberculosis. Occasionally, however, cases of surgical tuberculosis are admitted for treatment. Twelve of the beds which are in rather exposed shelters are not used during the six winter months.

At the Ladywell Sanatorium there are 66 beds (increased to 72 in September, 1931) set apart for the treatment of tuberculosis. Many cases are being admitted to the Ladywell Sanatorium while the temperature remains above normal ; subsequently, on becoming afebrile, they are transferred to the Nab Top Sanatorium, Marple, for open-air sanatorium treatment. It has been found that many cases of quite moderate severity do badly at an open-air sanatorium such as Nab Top, where they are completely in the open air, but when admitted to the Ladywell Sanatorium, in which, while there is an abundance of fresh air, the patient is not actually living and sleeping in the open air, excellent progress is made, and the patient's temperature rapidly falls. Numbers of these patients have been transferred from the Nab Top Sanatorium, where they had been in bed continually for several months with no apparent improvement, and on transfer to the Ladywell Sanatorium immediate improvement with a fall of temperature has been noticed. It is, consequently, of great value to have two Institutions of different type for the treatment of pulmonary tuberculosis.

The Ladywell Sanatorium is also largely used for the isolation of advanced cases ; such isolation is undoubtedly of great value in lessening the danger of massive infection in the homes, but is detracted from, by the difficulty of keeping the patients in hospital indefinitely.

(b) Treatment of School Children.

Cases of definite, or suspected, pulmonary or other forms of tuberculosis in children are always referred by the School Medical Officers to the Tuberculosis Officers for examination. Many of these cases are sent to Nab Top Sanatorium for treatment or observation. An open-air school under the control of an efficient teacher has been established at the Nab Top Sanatorium in order that the child patients may not suffer educationally during their period of treatment.

Delicate or pre-tubercular children definitely without signs of lung disease are referred to the School Medical Department for admission to open-air schools within the City.

(c) Treatment of Tuberculous Skin Diseases.

Special arrangements have been made with the Manchester and Salford Hospital for Skin Diseases for the treatment of lupus and other tuberculous skin diseases, and a large number of cases were approved for artificial sunlight treatment. There is no doubt that this form of treatment has very considerable beneficial effect in the treatment of tuberculous skin disease, recovery being much more rapid than in cases treated by local applications only. The number of visits paid by patients for artificial sunlight treatment during the year was one thousand six hundred and two. The total number of tuberculous skin cases treated was sixty, and the total number of attendances at the Skin Hospital, two thousand and seventy-one.

(d) Treatment of Surgical Tuberculosis.

Cases of surgical tuberculosis, after approval by the Tuberculosis Officer, are treated when necessary at the Salford Royal Hospital. At the request of the Surgeons at the Salford Royal Hospital, a number of cases of surgical tuberculosis have been sent to the Open-Air Sanatorium at Marple for varying periods after immobilisation, where necessary, of the affected part. These cases have derived very considerable benefit from their stay at the Sanatorium.

GENERAL REMARKS.

The powers contained in the Salford Corporation Act, 1920, and the Public Health Act, 1925, for the compulsory removal to hospital of persons suffering from pulmonary tuberculosis, have not been utilised up to the present time.

It has been found that in obstinate cases of advanced disease, it is sufficient to warn the patient that compulsory powers can be put in force on application to a magistrate.

No action has been necessary under the Public Health (Prevention of Tuberculosis) Regulations, 1925, in connection with tuberculous employees in the milk trade.

Three sessions per week have been allotted to the Tuberculosis Department for the treatment of cases of surgical tuberculosis in the Artificial Sunlight Clinic. Great improvement has been noted in cases of tubercular gland disease in which open sinuses have been present. These have derived very great benefit, and the sinuses, which in some cases had been discharging continuously for six months to two years, have definitely closed, and the patient's general health has been very greatly improved. Several cases of tuberculous joint disease have also been submitted to this treatment, but so far do not show any marked signs of improvement. No cases of pulmonary tuberculosis have as yet been given treatment by ultra violet rays.

TABLE 1.

Summary of Work done at the Tuberculosis Dispensary in 1931.

Diagnosis.	Pulmonary.				Non-Pulmonary.				Total.			
	Adults.		Children		Adults.		Children		Adults.		Children	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
A. New cases examined during the year—												
(*a*) Definitely tuberculous	179	108	10	8	16	16	13	21	195	124	23	29
(*b*) Doubtfully tuberculous	—	—	—	—	—	—	—	—	26	27	15	8
(*c*) Non-tuberculous . .	—	—	—	—	—	—	—	—	181	174	68	62
B. Contacts examined during the year—												
(*a*) Definitely tuberculous	1	1	—	—	—	—			1	1	—	—
(*b*) Doubtfully tuberculous	—	—	—	—	—	—	—	—	5	2	2	5
(*c*) Non-tuberculous . .	—	—	—	—	—	—	—	—	60	130	78	91
C. Cases written off Dispensary Register as—												
(*a*) Cured	24	23	5	2	2	2	5	3	26	25	10	5
(*b*) Diagnosis not confirmed or non-tuberculous	—	—	—	—	—	—	—	—	274	335	159	158
D. Number of persons on Dispensary Register on December 31st—												
(*a*) Diagnosis completed	612	419	40	43	61	66	71	75	673	485	111	118
(*b*) Diagnosis not completed	—	—	—	—	—	—	—	—	31	29	17	13

1. No. of persons on Dispensary Register on January 1st. .	1459
2. No. of patients transferred from other areas and "lost sight of" cases returned .	18
3. No. of patients transferred to other areas and cases "lost sight of"	159
4. Died during the year (Dispensary cases)	156
5. No. of attendances at Dispensary (including contacts)	5473
6. No. of consultations with medical practitioners—	
(*a*) Personal	12
(*b*) Other	789
7. No. of visits by Tuberculosis Officers to homes	96

8. No. of visits by Nurses or Health Visitors to homes for Dispensary purposes. .	5079
9. No. of—	
(*a*) Specimens of sputum, &c., examined	797
(*b*) X-ray examinations made in connection with Dispensary work.........	1743
10. No. of "TB plus" cases on Dispensary Register on December 31st	509
11. No. of insured persons under Domiciliary treatment on December 31st	506
12. No. of "Recovered cases" restored to Dispensary Register	2

TABLE 2.

Showing Period elapsing between Notification and Death in Fatal Cases of Pulmonary Tuberculosis.

	Number.	Percentage.
Not notified before death	37	13·8
Notified within three months of death	55	20·4
,, from three months to one year before death	61	22·6
,, from one year to two years before death	52	19·4
Over two years	64	23·8

Total number of deaths, 269.

Ratio of non-notified cases to total fatal cases, 37—269.

TABLE 3.

New Cases and Mortality during 1931.

Age Periods.	New Cases.				Deaths.			
	Pulmonary.		Non-Pulmonary.		Pulmonary.		Non-Pulmonary.	
	M.	F.	M.	F.	M.	F.	M.	F.
0	..	..	1	1	..	..	1	1
1	3	1	9	4	..	..	5	2
5	8	7	16	13	2	..	2	2
10	8	5	8	13	..	2	3	4
15	36	31	15	11	11	24	4	4
20	30	29	5	9	19	16	1	4
25	61	36	5	10	30	19	2	5
35	50	32	2	5	33	21	1	1
45	45	15	5	3	37	13	1	2
55	29	8	3	1	27	7	1	..
65 and upwards	10	2	..	..	7	1	..	..
Totals	280	166	69	70	166	103	21	25

TABLE 4.

Occupations of the 446 Cases of Pulmonary Tuberculosis Notified.

MALES.

Occupation	Number
1. Joiners. House Decorators and Building Trades	6
2. Carters and Hawkers	6
3. Labourers and Navvies	66
4. Railway Workers	3
5. Clerks and Typists	19
6. Makers of Wearing Apparel	14
7. Colliers	2
8. Mechanics and Engineering Workers	35
9. Grocers	1
10. Seamen	2
11. Printers and Bookbinding Trades	3
12. Shop Assistants	4
13. Cotton Workers	2
14. Electricians	6
15. Post Office Workers	2
16. Dyers and Bleachers	7
17. Employees in Motor Trades	2
18. Porters	1
19. Hairdressers	3
20. Warehousemen	6
21. Packers	5
22. Waiters	1
23. Scholars	16
24. Tramway Workers	4
25. Errand Boys	2
26. Rubber Workers	6
27. Policemen	1
28. Miscellaneous Occupations	39
29. No Occupation	16
Total	280

FEMALES.

Occupation	Number
1. Clerks and Typists	9
2. Makers of Wearing Apparel	24
3. Shop Assistants	3
4. Cotton Workers	11
5. Dyers and Bleachers	1
6. Housewives	59
7. Charwomen and Laundresses	6
8. Confectioners	3
9. Boxmakers	2
10. Domestic Servants	7
11. Packers	5
12. Toffee Workers	2
13. Waitresses	1
14. Scholars	13
15. Miscellaneous Occupations	14
16. No Occupations	6
Total	166

During the year 1931, 139 new notifications of non-pulmonary tuberculosis have been received.

The new cases of non-pulmonary tuberculosis notified are classified in the following table :—

	Glands.	Bones.	Abdomen.	Skin.	Meninges.	Other forms.	Totals.
Under 10 years	18	6	12	..	8	1	45
10 to 20 years	12	9	11	2	7	7	48
20 to 30 ,,	7	1	3	4	1	2	18
30 to 40 ,,	5	3	..	3	..	4	15
Over 40	1	1	2	2	..	7	13
Totals	43	20	28	11	16	21	139

NAB TOP SANATORIUM.

Annual Report.

RESIDENT STAFF.—Medical Superintendent, Matron, Home Sister, two Ward Sisters, eleven Nurses, Cook, Laundress, seventeen Maids and Lodge Porter.

NON-RESIDENT STAFF.—Engineer, School-mistress, Porter, two Gardeners and Labourer.

ACCOMMODATION.—From April 1st to September 30th each year there is accommodation in the Sanatorium for 120 patients (62 adult males, 42 adult females, 8 male children, and 8 female children).

From October 1st to March 31st, accommodation is slightly less, namely 108 (50 adult males, 42 adult females, 8 male children, and 8 female children.

TYPE OF CASE TREATED.—The Sanatorium is used for the treatment of early and intermediate cases of Phthisis.

A few advanced cases who show good resistance to the disease are also treated. A number of "observation" cases are admitted.

LINES OF TREATMENT.—The treatment adopted is chiefly Hygienic—open air, rest and graduated exercise.

On admission, patients, after a period of rest in bed, are put on walking exercise, the distance being gradually increased. Afterwards this is supplemented by light ward work. Those who show a satisfactory resistance are then placed on graduated work, beginning with light gardening work and rising to heavier work such as grass cutting and lawn rolling, wheelbarrow work and digging. Walking exercise is taken round two fields, the circumference of that reserved for women being one-quarter mile, and that for men one-third of a mile.

An increasing number of patients are being treated by means of Artificial Pneumothorax, care being taken to limit the treatment to cases who are really suitable. Last year 18 cases were induced at the Sanatorium and refills carried out during the stay of the patients, averaging 7½ months. On leaving the Sanatorium the refills are continued at the Tuberculosis Dispensary, Regent Road.

The X-ray apparatus installed in late 1930 has been of great benefit in this work, as being the controlling agent in spacing the refills in Artificial Pneumothorax cases. In 1931 the X-ray apparatus was used over 300 times both for controlling these cases and in routine work. Over 150 X-ray photographs were also taken at the end of ordinary Sanatorium treatment, and these proved very beneficial in ascertaining the amount of improvement effected during the stay here of these patients.

FARM.—A poultry farm maintained on the premises supplies many of the eggs required for consumption. Most of the vegetables used in this Institution are also grown in the grounds of the Sanatorium.

RECREATION.—The dining hall is set apart for the use of patients every week-day from 5 to 6 p.m., and every Saturday evening after supper, where whist and other card games are indulged in. A wireless set is in daily use, each bed being provided with a pair of ear-phones. There is also a loud speaker in the dining hall. Concerts are arranged about once a month from October to April, given by voluntary entertainers, and on many occasions during the winter plays have been staged.

There is also a large bowling green and clock golf green for the men, and a bowling and croquet green for the women, on which varied and interesting competitions are frequently held during the summer months.

CANTEEN.—A canteen has been established in the grounds wherein are sold those articles likely to be used in everyday life.

EDUCATION.—The Medical Superintendent at frequent intervals delivers lectures to the patients on such subjects as "Pulmonary Tuberculosis," "Rules of Health" and "The Care of the Mouth and Teeth." It is hoped that on leaving, patients may carry out the instructions given in these lectures and thus minimise the spread of infection in their own homes.

An open-air school, under the guidance of a competent teacher, has been established for patients under 16 years of age. This has been a boon to those children whose state of health has not permitted them to attend the ordinary school at home. No child is allowed to attend school unless certified physically fit by the Medical Superintendent. It may be of interest to know that during the last two years a large number of prizes have been won by the School Children for educational subjects and handicrafts in competition with children from ordinary Day Schools in the Manchester area.

Appended is a table showing the number of admissions, etc., and the number of patient days during the year 1931 :—

TABLE A—(Nab Top Sanatorium).

SHOWING THE NUMBER OF ADMISSIONS, ETC., AND THE NUMBER OF "PATIENT-DAYS" DURING THE YEAR 1931.

	Total Adults.		Children under 15.			Totals.		
	Males	Females	Males	Females	Both	Males	Females	Both.
Number of Patients admitted prior to 1931 who remained in Sanatorium for some part of 1931	43	21	6	11	17	49	32	81
Number of "Patient-days" in 1931 for patients admitted prior to 1931 who remained in Sanatorium for some part of 1931..	3314	2123	789	1526	2315	4103	3649	7752
Total admissions, 1931..	140	87	31	17	48	171	104	275
Total discharges and deaths, 1931	143	79	22	20	42	167	99	266
Number of "Patient-days" for persons admitted during 1931	13702	9975	2847	1814	4661	16549	11789	28338
Total number of "Patient-days" for 1931................	17016	12098	3636	3340	6976	20652	15438	36090
Average number of Patients in Sanatorium each day during 1931	50·7	32·0	9·9	9·0	18·9	60·6	41·0	101·6

NOTE.—The term "Patient-days" represents the product of the number of patients and the number of days spent by those patients in the Sanatorium.

TABLE B.—Patients Discharged from Nab Top Sanatorium during 1931.

	Condition at Time of Discharge.	Duration of Residential Treatment in Institution.											
		Under 3 Months.			3 to 6 Months.			6 to 12 Months.			Over 12 Months.		
		M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.
Pulmonary Tuberculosis	Quiescent	3	3	..	12	7	5	1	10	5	1	..	1
	Not Quiescent ...	60	19	4	41	24	4	10	7	3	6	1	2
	Died	..	..	..	3	..	..	..	..	..	..	..	..
	Totals	63	22	4	56	31	9	11	17	8	7	1	3
Non-Pulmonary Tuberculosis	Quiescent	..	..	..	2	..	1	..	..	2	..	..	1
	Not Quiescent ...	1	..	7	1	..	1	1	1	1	..	..	..
	Died	..	..	..	..	..	..	..	..	..	..	..	..
	Totals	1	..	7	3	..	2	1	1	3	..	..	1
								Under 4 weeks.			Over 4 weeks.		
Observation for Purposes of Diagnosis	Tuberculous							1	1	2	1	4	2
	Non-Tuberculous..........							1	..	..	..	1	1
	Doubtful							..	1	..	..	..	..

LADYWELL SANATORIUM.

TABLE SHOWING THE NUMBER OF ADMISSIONS, ETC., AND THE NUMBER OF "PATIENT-DAYS" FOR 1931.

TUBERCULOSIS CASES.

	Males.	Females.	Totals.
Total Number of Admissions during 1931 . .	161	117	278
Number of Persons Admitted prior to 1931 who remained in Hospital for some part of 1931	33	27	60
Total Number of Discharges and Deaths during 1931	156	118	274
Patients in Hospital on the 31st December, 1931	38	26	64
Number of "Patient-days" for Persons Admitted during 1931	11095	8989	20084
Number of "Patient-days" (in 1931) for Persons Admitted prior to 1931 who remained in Hospital for some part of 1931	1798	2465	4263
Total Number of "Patient-days" for 1931 . .	12893	11454	24347
Average Number of Patients in Hospital each day during 1931	35·32	31·38	66·70

LADYWELL SANATORIUM.

Report for the Year 1931.

At the beginning of the year there were 266 cases remaining in hospital; these, with the 1830 admitted during the year, make a total of 2,096 cases under treatment. Of this total 1,719 were discharged, 131 died, and 246 were in hospital at the end of the year. The number of cases treated, viz.: 2,096, compares with 2,489 in 1930 and with 2,174 the average of the cases treated for the five years ended December 31st, 1930.

The cases treated were as follows:—

Scarlet Fever	589
Mixed Infections	73
Measles	14
Enteric Fever	4
Diphtheria	759
Erysipelas	78
Puerperal Fever	20
Tuberculosis	339
Other Diseases	220
	2,096

The number of cases admitted from Out-Districts was 383, as compared with 408 in 1930. The daily average number of patients in 1931 was 218·06; the highest being 291 on December 12th, and the lowest 173 on June 3rd; 1,830 patients were admitted during the year, as compared with 2,228 in 1930 and with 1,950 the average for the five years ended December 31st, 1930. The following summary shows the diagnosis of the cases before admission and after observation in hospital:—

	Diagnosis before Admission.	Diagnosis after Observation.	
Scarlet Fever	571	523	
Diphtheria	777	655	
Enteric Fever	9	4	
Measles	8	14	
Erysipelas	79	73	
Puerperal Fever	16	15	
Encephalitis Lethargica	2		
Chicken Pox	4	3	Other Diseases.
Other Diseases	69	207	
Mixed Infections	17	59	
Tuberculosis	278	277	
	1,830	1,830	

Details of the alterations in diagnosis will be found in table 5, page 95. A tabulation of cases classified as "other diseases" will be found on page 89.

Mixed Diseases.—Forty-nine of the patients discharged were found to be suffering from two distinct diseases, as follows:—

Scarlet Fever and Chicken Pox	12
Scarlet Fever and Whooping Cough	4
Scarlet Fever and Scald (foot)	1
Scarlet Fever and T.B. Adenitis	2
Scarlet Fever and Diphtheria	9
Scarlet Fever and Pneumonia	1
Scarlet Fever and Measles	1
Diphtheria and Mastoiditis	1
Diphtheria and Nephritis	2
Diphtheria and Influenza	1
Diphtheria and Broncho-Pneumonia	1
Diphtheria and Chronic Blepharitis	1
Diphtheria and Chicken Pox	2
Diphtheria and Whooping Cough	3
Diphtheria and Pyelitis	1
Diphtheria and Bronchitis	1
Tonsillitis and Pulmonary Tuberculosis	1
Tonsillitis and Bacteriological Diphtheria	3
Tonsillitis and Septic Sore (thigh)	1
Measles and Bacteriological Diphtheria	1
	49

Deaths from Mixed Infections.—In this group the concurrent affections directly or partially caused a fatal termination in twelve cases, as follows:—

Diphtheria and Empyema	1
Diphtheria and Miliary T.B.	1
Scarlet Fever and Pneumonia	1
Scarlet Fever and Empyema	1
Scarlet Fever and Broncho-Pneumonia	1
Scarlet Fever and Rheumatic Endocarditis	1
Broncho-Pneumonia and Measles	1
Broncho-Pneumonia and Whooping Cough	1
Measles and Cerebro-spinal Meningitis	1
Puerperal Fever and Miliary T.B.	1
Chronic Endocarditis and Bacter. Diphtheria	1
Addison's Disease and Septic Sore Throat	1
	12

The average stay in hospital for all cases of mixed diseases discharged well in 1931 was 51·34 days, and for those that died 14·5 days.

Cross Infection.—The above cases of Mixed Infection, and cases admitted under a wrong diagnosis in which the actual diseases could only be ascertained after a time, gave rise to secondary infections in the wards. Every effort was made to prevent cross infection by careful examination of new patients before admission to the wards, and by employing the usual methods of Dick and Schick tests and immunization of susceptibles.

In spite of these precautions, it has always, and more especially when the wards are full, been difficult to prevent the spread of any infection in the wards in this hospital, owing to the fact that much too great a proportion of the beds is in large wards and that the isolation accommodation is in proportion quite inadequate. In large wards, in contrast to small wards, the chance of another infection being brought in by new admissions is greatly increased, and a larger number of patients are exposed to the infection once it appears there.

The number of patients discharged in 1931 who contracted another infection was as follows :—

Sent in as :—

Scarlet Fever and developed Chicken Pox	8
Scarlet Fever and developed Erysipelas	1
Diphtheria and developed Chicken Pox	9
Diphtheria and developed Chicken Pox and Erysipelas	1
Diphtheria and developed Scarlet Fever	7
Mixed Infections and developed Chicken Pox	1
Mixed Infections and developed Erysipelas	1
Chicken Pox and developed Erysipelas	1
Erysipelas and developed Whooping Cough	1
	30

The average stay in hospital for the 30 cross-infected cases discharged well in 1931 was 66·3 days, and for the one fatal case 28 days. The particulars of the fatal case are as follows : A female, aged 3 years, was sent in as Diphtheria and developed Scarlet Fever and Erysipelas.

DEATHS.—131 cases had a fatal termination, as follows :—

Scarlet Fever	1
Diphtheria	40
Mixed Infections	12
Measles	2
Erysipelas	6
Puerperal Fever	1
Advanced Tuberculosis	59
Miliary Tuberculosis	1
Septic Throat	1
Pemphigus Neonatorum	1
Premature Birth	2
Empyema	1
Malignant Growth	1
Cellulitis	1
Peritonitis (pneumococcal)	1
Cerebro-spinal Meningitis	1
	131

The average stay in hospital for all fatal cases, excepting advanced tuberculosis, was 11·99 days.

The number of cases discharged in 1931 was as follows :—

Disease.	Number.
Scarlet Fever	547
Mixed Infections	49
Measles	11
Enteric Fever	1
Diphtheria	620
Erysipelas	68
Puerperal Fever	18
Tuberculosis	216
Other Diseases	189
	1,719

The average stay in hospital for all cases discharged during 1931 was : For scarlet fever 37·29 days ; for mixed infections 51·34 ; for measles 23·27 ; for enteric fever 48 ; for diphtheria 42·63 ; for erysipelas 26·05 ; for puerperal fever 60·55 ; for tuberculosis 83·29 ; for other diseases 25·67.

The daily average number of patients in hospital in 1931 was 218·06, as compared with 253·2 in 1930, and with 231·9 the daily average of numbers in the five years ended December 31st, 1930.

There were remaining in hospital on December 31st, 1931, 246 cases, as compared with 266 last year. The cases remaining on December 31st, 1931, were scarlet fever 41, mixed infections 12, enteric fever 3, diphtheria 99, measles 1, erysipelas 4, puerperal fever 1, tuberculosis 64, and other diseases 21.

50 of the cases remaining were from out-districts, as compared with 73 last year.

DETAILED INFORMATION ABOUT SOME DISEASES.

Scarlet Fever.

The number of cases of this disease admitted in 1931 was 523, as against 703 in 1930. 571 cases were certified as having scarlet fever, but in 70 cases the diagnosis had to be revised. In addition, 19 cases certified as diphtheria and 3 cases of mixed infections proved to be scarlet fever. 547 cases were discharged well during the year, as against 709 last year. There was one death from this disease, giving a fatality rate of 0·18 per cent. The details of the fatal case are as follows :—

A male, aged 4 years, died from Streptoccocal Meningitis several months after tonsillectomy and adenoidectomy were done for double otorrhœa.

The type of the disease was mild. Scarlatinal antitoxin was given intramuscularly in 5–10 c.c. doses to all but the very mild cases. The more important complications were as follows :—

	No.	Percentage of Discharged Cases.
Adenitis and Abscess (15)	103	18·83
Rhinitis.....................................	94	17·19
Otorrhœa and Otitis Media	30	5·49
Relapse	19	3·47

Other complications were as follows : Arthritis, 1 ; albuminuria, 6 ; broncho-pneumonia, 1 ; bronchitis, 7 ; boil (face) 1, (hand) 1 ; blepharitis, 1 ; conjuctivitis, 1 ; chilblains, 1 ; dacrocystitis, 1 ; erythema nodosum, 1 ; epistaxis, 3 ; furunculosis, 11 ; herpes labialis, 2 ; hordeolum, 3 : impetigo, 6 ; intertrigo, 1 ; incision, 6 ; laryngitis, 1 ; nephritis, 5 ; post-operative septic wound, 1 ; paronychia, 14 ; paracentesis, 4 ; rheumatism, 6 : scabies, 1 ; sinusitis, 2 ; mastoid abscess, 1 ; tonsillitis, 2 ; vaginitis, 2

9 cases developed another infection : Chicken pox, 8 ; erysipelas, 1.

The average stay in hospital for all cases discharged well was 37·29 days, and the fatal case 111 days.

The following table indicates the period of residence of the 538 cases of scarlet fever uncomplicated with another disease who were discharged well in 1931 :—

Week of Discharge.	Number of Days in Residence when Discharged.							Number of Cases in each Day.							No. of Cases in each Week.
Under fourth	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Fourth	22	23	24	25	26	27	28	3	1	2	3	6	6	32	53
Fifth	29	30	31	32	33	34	35	40	70	57	45	41	42	22	317
Sixth	36	37	38	39	40	41	42	21	12	12	10	10	7	8	80
Seventh..........	43	44	45	46	47	48	49	5	4	7	2	9	5	2	34
Eighth...........	50	51	52	53	54	55	56	5	6	1	2	2	2	1	19
Ninth	57	58	59	60	61	62	63	2	1	2	1	2	1	..	9
Tenth	64	65	66	67	68	69	70	1	1	3	..	2	..	2	9
Over Tenth	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15

Total Number of Cases.................................538

Return Cases.—12 cases were reported to have been infected by cases returned from hospital.

Schick Test in Scarlet Fever and Other Diseases.

The following table shows the age distribution of patients suffering from scarlet fever and other diseases who underwent the Schick test :—

	Age Periods.												
	Under 1 Yr.	1	2	3	4	5	6	7	8	9	10	Over 10	Total
Positive....	..	2	8	14	10	10	9	11	15	8	7	22	116
Negative ..	..	..	8	9	5	15	21	20	15	15	12	51	171
Totals ...	..	2	16	23	15	25	30	31	30	23	19	73	287

Immunized : 3 doses, 113 ; 2 doses. 26 ; 1 dose, 7.

Diphtheria.

655 cases were admitted during the year and 104 remained from last year; of these 620 were discharged well, 40 died, and 99 remained in hospital at the end of the year. 777 cases were admitted certified as diphtheria ; in 126 cases the diagnosis had to be revised and, in addition, 1 other disease, 2 cases admitted as scarlet fever and 1 case admitted as a mixed infection, proved to be diphtheria. The disease was of an exceptionally malignant type, as shown by the large proportion of severe cases. In a large number, 106, of the most severe cases part of the antitoxin was given intravenously, in many instances repeatedly.

TYPE OF DISEASE.

Of the discharged cases, 484 were faucial, 35 laryngeal, 44 nasal, and 7 laryngeal and faucial. There were also 50 cases of bacteriological diphtheria.

Faucial Diphtheria.

In 516 cases, including 32 fatal ones, the faucial region of the throat was affected.

MILD.—270 cases were mild, the deposit on the throat being localized to the tonsils with little or no toxæmia. The average amount of serum given was 9,777 units. All these mild cases made a complete recovery. 25 cases had antitoxin before admission.

COMPLICATIONS AND SEQUELÆ.—Adenitis 3; adenitis and impetigo 1 ; adenitis and otorrhœa 2 ; arthritis 1 ; adenitis, carrier, furunculosis, otorrhœa and rhinitis 1 ; albuminuria and synovitis 1 ; albuminuria 2 ; alveolar abscess 1 ; bronchitis 2 ; blepharitis and conjuctivitis 1 ; carrier

10; carrier and rhinitis 1; cardiac arrhythmia 2; carrier and furunculosis 1; furunculosis 2; lower limb paresis 2; nephritis, carrier, uræmic convulsions, venesection 1; otorrhœa 7; otorrhœa, palatal paralysis and septic finger 1; palatal paresis 1; rhinitis 4; rhinitis and impetigo 1; septic finger 1; tonsillitis 3.

3 cases developed Scarlet Fever.

5 cases developed Chicken Pox.

MODERATE.—In 124 cases, including 1 fatal case, the membrane was more extensive and was accompanied by toxæmia. The average amount of serum given was 26,569 units for the recovered cases and 28,000 units for the fatal case. Twelve cases received antitoxin before admission.

COMPLICATIONS AND SEQUELÆ.—Albuminuria 2; adenitis 1; albuminuria and cardiac arrhythmia 1; abscess (leg) and carrier 1; albuminuria, cardiac arrhythmia and palatal paralysis 1; axillary abscess 1; bradycardia 1; carrier and septic finger 1; carrier 6; cardiac arrhythmia 1; furunculosis 2; otorrhœa 3; paronychia 1; perirectal abscess and incision 1; palatal paralysis 1; septic finger 2; tonsillitis 4.

COMPLICATIONS OF FATAL CASE.—Circulatory paralysis.

1 case developed Scarlet Fever.
1 case developed Chicken Pox.

SEVERE.—122 cases, including 31 fatal, were of the severe type. The average amount of serum given was, for the 91 discharged, 92,330 units and for the 31 fatal cases 90,710 units. 11 cases, including 5 fatal ones, received antitoxin before admission. One patient was moribund on admission and Anti-Diphtheritic Serum was not given.

COMPLICATIONS AND SEQUELÆ.—Albuminuria 3; adenitis and otorrhœa 1; albuminuria, cardiac arrhythmia and dilatation, lower limb paresis and palatal paresis 1; albuminuria and nephritis 1; albuminuria, cardiac arrhythmia and palatal paralysis 1; adenitis 1; albuminuria, palatal paralysis and strabismus 3; albuminuria and strabismus 1; albuminuria and palatal paralysis 2; abscess (leg) and palatal paralysis 1; albuminuria and carrier 1; albuminuria, peripheral nerve and palatal paralysis, cycloplegia, and cardiac arrhythmia 1; cardiac arrhythmia and palatal paralysis 4; cardiac arrhythmia, palatal paralysis and strabismus 1; cardiac arrhythmia 6; cardiac dilatation and peripheral nerve paralysis 1; cycloplegia, strabismus, palatal paralysis, incision of glands otorrhœa, mastoiditis, and adenitis 1; cycloplegia 1; furunculosis 1; impetigo 1; lower limb paresis and rhinitis 1; lower limb paresis 1; lower limb paresis, spinal muscle paresis, palatal and pharyngeal paralysis, otorrhœa and strabismus 1; lower limb paresis, otorrhœa, and palatal paralysis 1;

nephritis 1; palatal paralysis 10; palatal paresis and tonsillitis 1; palatal and pharyngeal paralysis and strabismus 1; septic finger 1; tonsillitis 1; albuminuria, palatal paralysis and pharyngeal paralysis 1.

2 cases developed Scarlet Fever.
1 case developed Chicken Pox.
1 case developed Chicken Pox and Erysipelas.

Complications of Fatal Cases.—Adenitis and incision 1; circulatory paralysis 22; circulatory paralysis and anuria 1; cardiac arrhythmia and palatal paralysis 1; circulatory paralysis and palatal paralysis 3; circulatory and palatal paralysis and cardiac arrhythmia 2.

1 case developed Scarlet Fever and Erysipelas.

Laryngeal Diphtheria.

In 37 cases, including two fatal, the larynx was involved.

Mild.—In 17 cases the laryngeal obstruction was slight. The average amount of serum given was 14,600 units.

Complications and Sequelæ.—Albuminuria 1; furunculosis 1; otorrhœa 1; otorrhœa, rhinitis and tonsillitis 1.

Moderate.—In 10 cases the laryngeal obstruction was moderately severe. The average amount of serum given was 25,600 units.

One case received antitoxin before admission.

Complication and Sequelæ.—Nil.

Severe.—In 10 cases, including 2 fatal, the obstruction to the breathing was severe. 5 cases required tracheotomy. The average amount of serum given was 36,000 units to the discharged cases and 40,000 to the two fatal. Tracheotomy gave only temporary relief to the fatal cases, the membrane having extended too far down.

Complications and Sequelæ.—Adenitis 1; carrier and septic thumb 1.

1 case developed Chicken Pox.

Complications of Fatal Cases.—Broncho-pneumonia 1.

Faucial and Laryngeal Diphtheria.

The fauces and larynx were involved in 12 cases; 2 cases were mild, 2 moderate and 8 severe in type. The average amount of serum given was, for the mild cases, 18,000 units, for the moderate, 46,000 units, and for the 3 severe discharged, 44,000 units, and for the 5 fatal, 46,400 units. 3 of the recovered cases and 4 of the fatal cases required tracheotomy.

Complications and Sequelæ. Mild. Carrier, furuncle and otorrhœa 1.

Complications of Fatal Cases.—Circulatory paralysis 2; tracheal obstruction 2.

Nasal Diphtheria.

There were 44 mild cases of nasal diphtheria, and the average amount of serum given was 6,600 units.

Complications and Sequelæ.—Adenitis 1; carrier 4; cardiac arrhythmia, furuncle and stye 1; carrier and cardiac arrhythmia 1; paronychia 1; rhinitis 1; septic sores 1.

1 case developed Scarlet Fever.
1 case developed Chicken Pox.

Faucial and Nasal Diphtheria.

The one severe fatal case of this type of diphtheria received 152,000 units.

Complications of Fatal Case.—Circulatory paralysis 1.

The following table summarises the sites of membrane in the total clinical cases discharged:—

Site of Membrane.	Mild.		Moderate.		Severe.		Total.	
	Recovered.	Died.	Recovered.	Died.	Recovered.	Died.	Recovered.	Died.
Faucial	270	..	123	1	91	31	484	32
Laryngeal and Faucial	2	..	2	..	3	5	7	5
Laryngeal	17	..	10	..	8	2	35	2
Nasal	44	..	..	..	..	..	44	..
Faucial and Nasal	..	..	..	..	..	1	..	1
Totals	333	..	135	1	102	39	570	40

Diphtheritic Paralysis.—39, or 6·3 per cent, of the clinical cases discharged had paralysis in one form or another whilst in hospital.

Complications.—152, or 24·5 per cent, of the recovered cases developed one or more complications. This figure does not include serum rashes.

Tracheotomy was performed in 14 instances, with 6 fatalities.

Fatality Rate.—40, or 6·45 per cent, of the clinical cases were fatal.

Antitoxin.—44, or 7·1 per cent, of the cases discharged had antitoxin before admission to the hospital, and 6 of the fatal cases. The average amount of serum given in hospital in the recovered cases was 25,245 units and 82,600 units in the fatal cases. In addition, 106 cases, including 27 fatal cases, had part of the serum injected intravenously. 116 cases developed a serum rash.

Dick Test in Diphtheria.

The Dick test was performed in 526 cases of diphtheria, 308 of these were positive and 218 negative. The positive reactors were inoculated with scarlet fever prophylactic at weekly intervals (500, 2,000, 6,000, 15,000 skin test doses). Seven cases of scarlet fever occurred amongst diphtheria patients during the year.

	Age Periods.												Totals.
	Under 1 Yr.	1	2	3	4	5	6	7	8	9	10	Over 10	
Positive..	2	8	30	36	36	40	35	31	22	27	18	59	344
Negative	3	1	6	7	12	25	23	21	8	18	17	77	218
Totals ...	5	9	36	43	48	65	58	52	30	45	35	136	562

Immunized.—4 doses 260 ; 3 doses 18 ; 2 doses 9 ; 1 dose 2.

Enteric Fever.

9 cases were admitted under this diagnosis, but in 5 instances this had to be revised. 1 case was discharged well and 3 were in hospital at the end of the year.

Puerperal Fever.

16 cases were admitted under this diagnosis, but in 1 instance the diagnosis had to be revised.

Of the 20 cases under treatment, 18 were discharged, 1 died, and 1 was in hospital at the end of the year. The 18 discharged cases were classified as follows: Puerperal fever 3; puerperal sepsis 12; phlegmasia alba dolens 1; septic abortion 1; post-puerperal debility 1, and the fatal case as puerperal septicæmia.

Complications: Bronchitis 2; localized peritonitis 1; phlegmasia alba dolens 3; pelvic cellulitis 1.

There were 11 babies admitted with their mothers.

Erysipelas.

79 cases were admitted as erysipelas during the year, but in 7 instances the diagnosis had to be revised. In addition, 1 case admitted as diphtheria proved to be erysipelas. Of the 78 cases under treatment, 68 were discharged well, 6 died and 4 were in hospital at the end of the year.

Complications of the Discharged Cases.—Acute mania 1; arthritis 1; abscess 3; broncho-pneumonia 1; bronchitis 1; cellulitis 1; furunculosis 1; hordeolum 1; mastoid wound 1; incision 5; otorrhœa 4; suppurative bursitis 1; relapse 1; tonsillitis 1.

Complications of the Fatal Cases.—Bronchitis, cellulitis and thrombosis 1; circulatory and cardiac failure 1; confinement, cellulitis and incisions 1; necrosis (scalp) 1; toxæmia and bed sores 1.

Staff.—On December 31st, 1931, the resident staff of the sanatorium consisted of the following:—

Medical Superintendent	1
Assistant Resident Medical Officers	2
City Pathologist	1
Matron	1
Assistant Matron	1
Stores Sister	1
Sister Tutor	1
Night Sister	1
Sisters	7
Staff Nurses	16
Assistant Nurses	3
Probationers	41
Cook	1
Domestics	38
Laundress	1
Lodge Porters	2
Total Resident Staff	118

The Non-resident Staff consisted of :—

Visiting Aural Surgeon	1
Clerk	1
Junior Clerk	1
Engineer	1
Plumber	1
Firemen	3
Gardener	1
Assistant Gardeners	2
Porters	5
Seamstresses	2
Cleaners	2
Total Non-resident Staff	20

Health of Staff.—The following were the illnesses : Abscesses 3 ; arthritis 2 ; arthritic pain 1 ; bronchitis 1 ; coryza 2 ; cystitis 1 ; diphtheria 1 ; gastritis 2 ; injury (chest) 1 ; paronychia 1 ; rheumatism 6 ; septic hand 3 ; sprained hip joint 1 ; scarlet fever 1 ; tonsillitis 14.

The staff, both nurses and maids, have been tested by the Schick and Dick tests and, if positive, immunized against diphtheria and scarlet fever.

Fifty-four were Schick-tested, and 20 gave a positive reaction ; all these were inoculated with three doses of Toxoid at weekly intervals. Three months later 9 were re-tested, the others having left, and 3 were still positive ; they received one more inoculation and a month later were negative.

The Dick test was performed in fifty-four, and 13 of these were positive ; they were inoculated with 500, 2,000, 6,000 and 15,000 skin test doses of Scarlatinal Toxin, and of 12 on a re-test a month later, 2 still remained positive ; a further dose was given and a month after the 2 were negative.

One probationer-nurse contracted diphtheria in a moderately severe form. The nurse was Schick-tested on joining and gave a positive reaction ; she was inoculated with three doses of Toxoid at weekly intervals, and a re-test the day before she contracted diphtheria showed her to be still positive.

One probationer-nurse contracted scarlet fever. She was being immunized at the time and had received the first dose of 500 S.T.D.

Work of the Training School.—During the year, 11 passed the Preliminary and 11 the Final State examinations. The usual course of lectures was given by the Medical Staff and the Sister Tutor.

Operating Theatre.

The number of operations in the theatre was 20, all requiring general anæsthesia : minor operations are not included ; numerous incisions were done on the wards, some requiring general nitrous oxide gas anæsthesia : others required local anæsthetics only.

Particulars of the operations in the theatre are :—

Disease and Complication.	Operation.	Recovered.	Died.	Total.
Scarlet Fever :				
Otorrhœa	Tonsillectomy and Adenoidectomy	5	1*	6
Adenitis and Otorrhœa	Tonsillectomy and Adenoidectomy	1	..	1
Otorrhœa	Schwartzes Operation	3	..	3
Acute Mastoiditis	Schwartzes Operation	4	..	4
Diphtheria :				
Carrier	Tonsillectomy and Adenoidectomy	3	..	3
Otorrhœa	Tonsillectomy and Adenoidectomy	1	..	1
Otorrhœa	Schwartzes Operation	1	..	1
Diphtheria and Scarlet Fever :				
Otorrhœa	L. Antrum opened	1	..	1
		19	1	20

* Died subsequently from Streptococcal Meningitis.

Bed Isolation Ward.

This ward contains 16 beds. Each patient is nursed separately from the others, and nothing which has been in contact with the patient or anything from his bed is allowed to touch any other patient or bed unless it has been sterilized. This sterilization is done by steam whenever possible, or by disinfection with liquid disinfectant. Nurses have to wear separate gowns, and scrub their hands every time they attend a patient.

Free ventilation is also insisted upon. All varieties of diseases were admitted. The ward was busy all through the year, the demand for isolation being always great.

158 cases were admitted during the year.

The following is a table of the diseases :—

Sent in as—		Diagnosis after observation.	
Scarlet Fever	62	Scarlet Fever	31
		Bronchitis	1
		Impetigo	1
		Influenza	4
		Scarlet Fever and Chicken Pox	4
		Scarlet Fever and Diphtheria	1
		Scarlet Fever and Purpura	1
		Tonsillitis and Erysipelas	1
		Rubella	6
		Septic sore ankle	1
		Tonsillitis	11
Diphtheria	65	Diphtheria	41
		Scarlet Fever	11
		Tonsillitis	8
		Diphtheria and Scarlet Fever	4
		Diphtheria, Chicken Pox and Erysipelas	1
		Carried forward ..	127

Brought forward .. 127

Sent in as—		Diagnosis after observation.	
Enteric Fever	5	Gastro-Enteritis	2
		Lobar Pneumonia	1
		Enteric Fever	1
		Enteritis	1
Measles	4	Measles	4
Erysipelas	4	Erysipelas	4
Typhus Fever	2	Influenza	1
		Enteric Fever	1
Diphtheria and Pneumonia	1	Diphtheria and Pneumonia	1
Scarlet Fever and Whooping Cough	1	Tonsillitis	1
Diphtheria and Scarlet Fever	2	Diphtheria	1
		Scarlet Fever	1
Measles and Pneumonia	1	Measles	1
Diphtheria and Measles	2	Measles	1
		Laryngitis	1
Whooping Cough and Pneumonia	1	Whooping Cough and Pneumonia	1
Whooping Cough and Scarlet Fever	1	Scarlet Fever	1
Diphtheria and Chicken Pox	1	Diphtheria	1
Scarlet Fever and Chicken Pox	6	Scarlet Fever	1
		Scarlet Fever and Chicken Pox	4
		Scarlet Fever and Purpura	1
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Report by W. B. McKelvie, M.D., F.R.C.S.E.,

Aural Surgeon to the Hospital.

During 1931 the work, which has now become a well-organized feature of the hospital's activities, met with its former measure of success.

As has been stated in former reports, the patient who contracted ear trouble during the period of hospitalization did well ; quite otherwise (so far as a cure of the ear condition was concerned) was the case of the patient with chronic otitis media.

The increasing scope of school ear clinic work has undoubtedly been an important check to the occurrence of long-standing otorrhœa in children, but it has now become evident to aural surgeons that at some future time ti may be found necessary to deal with measles in a similar way to that in which scarlet fever and diphtheria patients are now dealt with, in order to abate the disastrous effects that this exanthem frequently has on the ears.

Though early incision of the drum was resorted to more often than previously, yet during the year it was found necessary to perform as many as nine mastoid operations, and in most of these cases extensive and rapid destruction of bone had occurred. It is, however, certain that a number of cases of early mastoiditis resolved as a result of early drainage by means of drum incision. All the mastoid cases did well, and it was not found necessary (apart from these and a few other cases of otitis media) to perform quite so many tonsil and adenoid operations as were done last year.

A number of visits were made to see emergency cases, several of these being patients sent in with mastoid trouble by their doctors, as it is now known that routine surgical attention is available in the hospital.

In the matter of the results of treatment of cases who contracted ear trouble during their stay in hospital, 82 per cent left hospital with intact drums, about 10 per cent with perforated drums but dry ears, and the remainder with some discharge from the ear.

During the year, 904 examinations were made and 9 mastoid (Schwartze type) operations, 12 tonsil and adenoid operations, and 24 incisions of the drum were performed.

My best thanks are due to the medical superintendent and his staff for their interested co-operation in the work.

Appended are the usual statistical tables.

TABULATION OF CASES WHICH HAVE BEEN CLASSIFIED AS "OTHER DISEASES."

Abscess	3
Arthritis	3
Bronchitis	7
Bronchiectasis	1
Carbuncle (face)	1
Cerebral tumour	1
Cellulitis	2
Cerebro-Spinal Fever	3
Cystitis	1
Chicken Pox	3
Dermatitis	1
Diphtheritic Paralysis	1
Erythema	2
Eczema	3
Enteritis	1
Empyema	1
Gastritis	2
Gastro-Enteritis	2
Impetigo	2
Injury (chest)	1
Influenza	13
Ischio-Rectal Abscess	1
Laryngitis	3
Lobar Pneumonia	2
Lumbago	1
Malignant growth	1
Miliary Tuberculosis	1
Paronychia	1
Pemphigus Neonatorum	1
Peritonsillar Abscess	2
Pleurisy	1
Peritonitis (pneumococcal)	1
Premature Birth	2
Rubella	7
Rhinitis	5
Rheumatism	7
Septic throat	3
Septic finger and hand	1
Septic sore foot	2
Septic hand	2
Sprained hip joint	1
Tonsillitis	96
Vincent's Angina	1
With mother	11
Whooping Cough	3
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TABLE I.

STATEMENT OF THE NUMBER OF PATIENTS UNDER TREATMENT IN LADYWELL SANATORIUM IN 1931.

	Males.		Females.		Totals.
	Under 5 years.	Over 5 years.	Under 5 years.	Over 5 years.	
I.—PATIENTS REMAINING IN HOSPITAL ON DECEMBER 31ST, 1930, AFFECTED WITH:					
Scarlet Fever	13	18	10	25	66
Mixed Infection	3	5	1	5	14
Measles	..	..	..	..	..
Enteric Fever	..	..	..	..	..
Diphtheria	18	35	10	41	104
Erysipelas	..	1	..	4	5
Puerperal Fever	..	..	..	5	5
Tuberculosis (Advanced)	1	32	..	29	62
Other Diseases	5	..	3	2	10
Totals	40	91	24	111	266
II.—ADMITTED DURING THE YEAR ENDED DECEMBER 31ST, 1931, AFFECTED WITH:					
Scarlet Fever	71	150	67	235	523
Mixed Infections	13	13	13	20	59
Measles	8	2	2	2	14
Enteric Fever	..	2	..	2	4
Diphtheria	92	203	77	283	655
Erysipelas	1	32	2	38	73
Puerperal Fever	..	..	..	15	15
Tuberculosis (Advanced)	..	159	..	118	277
Other Diseases	27	62	27	94	210
Totals	212	623	188	807	1830
Total under treatment, 1931	252	714	212	918	2096
III.—OF THE ABOVE THERE WERE DISCHARGED, RECOVERED FROM:					
Scarlet Fever	77	157	68	245	547
Mixed Infection	11	12	11	15	49
Measles	5	2	2	2	11
Enteric Fever	..	1	..	..	1
Diphtheria	90	193	65	272	620
Erysipelas	..	28	1	39	68
Puerperal Fever	..	..	..	18	18
Tuberculosis	1	124	..	91	216
Other Diseases	28	51	24	86	189
Totals	212	568	171	768	1719

TABLE I.—continued.

STATEMENT OF NUMBER OF PATIENTS—continued.

	Males.		Females.		Totals.
	Under 5 years	Over 5 years.	Under 5 years.	Over 5 years.	
IV.—DIED FROM :					
Scarlet Fever	1	..	..	..	1
Mixed Infection	2	2	3	5	12
Measles	2	..	..	..	2
Enteric Fever	..	..	..	..	..
Diphtheria	8	9	8	15	40
Erysipelas	1	3	1	1	6
Puerperal Fever	..	..	..	1	1
Tuberculosis (Advanced)	..	31	..	28	59
Other Diseases	2	2	4	2	10
Totals	16	47	16	52	131
V.—REMAINING IN HOSPITAL ON DECEMBER 31ST, 1931, AFFECTED WITH :					
Scarlet Fever	6	11	9	15	41
Mixed Infection	3	4	..	5	12
Measles	1	..	..	..	1
Enteric Fever	..	1	..	2	3
Diphtheria	12	36	14	37	99
Erysipelas	..	2	..	2	4
Puerperal Fever	..	..	..	1	1
Tuberculosis	..	36	..	28	64
Other Diseases	2	9	2	8	21
Totals	24	99	25	98	246

TABLE II.

MONTHLY STATEMENT OF PATIENTS FOR THE YEAR ENDED DECEMBER 31ST, 1931; TOGETHER WITH A COMPARISON WITH THE YEAR 1930, AND WITH THE MEAN OF THE FIVE (5) AND FORTY-EIGHT (48) YEARS ENDED DECEMBER 31ST, 1930.

Month.	Admissions, 1931.	Admissions, 1930.	Mean of Admissions, 5 years, 1926-1930.	Mean of Admissions, 48 years, 1883-1930.	Daily Average No. of Patients in Hospital, 1931.	Daily Average No. of Patients in Hospital, 1930.	Mean of Daily Average No. of Patients in Hospital, 5 yrs., 1926-1930.	Mean of Daily Average No. of Patients in Hospital, 48 yrs., 1883-1930.
January	134	224	169·2	119·4	240·4	267·0	223·1	144·5
February.......	136	198	148·8	97·8	215·9	286·5	236·6	139·6
March	176	215	159·8	104·1	220·5	272·2	230·4	128·2
April	134	160	148·4	98·4	201·5	269·4	228·1	122·0
May	138	197	157·2	130·0	192·3	245·3	216·3	119·8
June	144	148	144·6	101·1	185·7	243·3	213·6	116·4
July	144	168	150·4	110·1	198·0	243·8	216·0	124·6
August	121	168	140·6	108·3	203·3	239·9	212·5	127·6
September	157	173	178·6	130·5	211·6	243·3	228·5	142·1
October	166	176	206·6	153·4	226·2	245·2	255·4	162·1
November......	189	211	179·6	141·3	242·5	273·1	268·1	172·8
December	191	190	166·4	124·5	277·3	276·6	254·7	151·0
Totals	1830	2228	..	..	..	..	..	..
M'thly Av'ges ..		185·7	162·5	118·2	217·9	258·8	231·9	137·5

TABLE III.

Showing the Number of Admissions of the Principal Infectious Diseases for the Year ended December 31st, 1931; also a comparison with the Year 1930, and with the Mean of the Five Years and Forty-eight Years ended December 31st, 1930.

Month.	Scarlet Fever.	Mixed Diseases.	Measles.	Enteric Fever.	Typhus Fever.	Diphtheria.	Erysipelas.	Puerperal Fever.	Smallpox	Advanced Tuberculosis.	Other Diseases.	Totals.
January	31	2	..	..	..	57	8	2	..	24	10	134
February	29	3	..	..	..	57	4	1	..	28	14	136
March	51	8	2	..	..	51	11	3	..	34	16	176
April	38	3	2	..	..	37	6	1	..	30	17	134
May	46	4	2	..	..	37	3	2	..	18	26	138
June	40	6	3	..	..	48	4	..	..	28	15	144
July	42	5	2	1	..	51	4	..	..	19	20	144
August	45	6	1	..	..	34	5	1	..	16	13	121
September	44	5	..	..	..	60	4	1	..	29	14	157
October	60	7	1	..	..	48	6	2	..	19	23	166
November.....	59	4	1	1	..	74	7	1	..	17	25	189
December	38	6	..	2	..	101	11	1	..	15	17	191
Totals	523	59	14	4	..	655	73	15	..	277	210	1830
Totals, 1930...	703	69	26	19	..	753	96	30	..	287	245	2228
Increase, 1931	..	..	..	..	..	..	..	..	..	..	..	..
Decrease, 1931	180	10	12	15	..	98	23	15	..	10	35	398
Mean of 5 years 1926–1930...	743·8	42·4	19·2	12·0	..	531·0	74·0	25·0	..	273·7	236·0	1950·2
Mean of 48 years—1883–1930...	824·1	4·4	4·7	114·3	4·4	218·5	34·1	11·3	12·6	55·3	130·5	1414·4

TABLE IV.

ANNUAL STATEMENT.

Disease.	No. of Cases Remaining on Dec. 31st, 1930.	No. of Cases Treated.	No. of Cases Admitted.	No. of Cases Discharged.	No. of Deaths.	No. of Cases Remaining on Dec. 31st, 1931.
Scarlet Fever..	66	589	523	547	1	41
Mix'd Infections	14	73	59	49	12	12
Measles	..	14	14	11	2	1
Enteric Fever..	..	4	4	1	..	3
Diphtheria	104	759	655	620	40	99
Erysipelas.....	5	78	73	68	6	4
Puerperal Fever	5	20	15	18	1	1
Tuberculosis (Advanced)..	62	339	277	216	59	64
Other Diseases.	10	220	210	189	10	21
Total	266	*2096	†1830	1719	131	‡246
Corresponding figures, 1930.		2489	2228	2092	131	266
Average five years		2174	1950	1805·2	128·8	239·8

	From "Out-Districts."	From "Out-Districts."	From "Out-Districts."
1931......................	*456	†383	‡50
1930......................	455	408	73

TABLE V.—Diseases Admitted.

Cases Sent In As	Total sent in.	Hospital Diagnosis.																																																		
		Scarlet Fever.	Mixed Infections.	Measles.	Enteric Fever.	Diphtheria.	Erysipelas.	Puerperal Fever.	Tuberculosis.	Abscess.	Arthritis.	Bronchitis.	Bronchiectasis.	Carbuncle (face).	Cerebral Tumour.	Cellulitis.	Cerebro Spinal Fever.	Cystitis.	Chicken Pox.	Dermatitis.	Diphtheretic Paralysis.	Erythema.	Eczema.	Empyema.	Enteritis.	Gastritis.	Gastro-Enteritis.	Impetigo.	Injury (chest).	Influenza.	Ischio-Rectal Abscess.	Laryngitis.	Lobar Pneumonia.	Lumbago.	Malignant growth.	Miliary Tuberculosis.	Paronychia.	Pemphigus Neonatorum.	Peritonsillar Abscess.	Pleurisy.	Peritonitis (Pneumococcal)	Premature Birth.	Rubella.	Rhinitis.	Rheumatism.	Septic Throat.	Septic finger and hand.	Septic sore foot.	Septic hand.	Sprained hip joint.	Tonsillitis.	Vincents Angina.	With mother.	Whooping Cough.
Scarlet Fever	571	501	19	..	..	2	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	2	..	..	..	..	..	2	..	10	..	..	1	..	..	..	..	..	..	1	1	..	7	1	1	..	..	1	..	..	20	..	..	..
Mixed Infections	17	3	6	5	..	1	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	8	..	1	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever	9	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria	777	19	30	3	..	651	1	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	3	..	..	..	1	..	..	2	..	..	..	..	2	..	3	..	..	..	..	59	1	..	..
Erysipelas	79	..	..	..	..	..	72	..	..	..	..	..	..	1	..	2	..	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Puerperal Fever	16	..	..	..	..	..	..	15	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis	278	..	..	..	..	..	..	..	276	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Miscellaneous Diseases	75	..	3	..	..	1	..	..	..	3	3	4	..	..	1	..	3	1	2	..	..	..	1	..	..	2	..	..	1	1	1	..	..	1	..	..	1	1	..	..	..	2	..	2	6	..	1	..	2	1	17	..	11	3
	1830	523	59	14	4	655	73	15	277	3	3	7	1	1	1	2	3	1	3	1	1	2	3	1	1	2	2	2	1	13	1	3	2	1	1	1	1	1	2	1	1	2	7	5	7	3	1	2	2	1	96	1	11	3

Report on Diphtheria Immunization for 1931.

The work of the two weekly clinics was continued uninterruptedly throughout the year. The following figures relate to persons attending at both Clinics during 1931 :—

	Total of both Clinics.	
No. who had a course of three inoculations	167	
No. of Schick tests (not re-tests)	218	83 of these were positive.
No. of Schick re-tests after inoculations	287	

Immunization was continued at Ladywell Sanatorium during 1931, and the relevant particulars are as follows :—

No. of patients inoculated	113
No. of Schick tests	287
No. of staff inoculated	20
No. of Schick tests	54

On the suggestion of the Medical Officer of St. George's Home, Higher Broughton, the boys residing at this Home were protected against diphtheria.

No. of boys Schick tested	54
No. of boys inoculated	12
No. of boys re-tested	11

Attention was drawn in the Ladywell Sanatorium Report, 1930, that too great a proportion of Scarlet Fever patients on being Schick tested were found to give a negative reaction. It was discovered during 1931 that this was due to the fact that Scarlatinal Antitoxin, which was frequently administered to Scarlet Fever patients, contained Diphtheria Antitoxin, and this abolished the positive response to a Schick test. Several patients who had under these circumstances given a negative Schick test were admitted with Diphtheria, and one died.

All the parents of children who had a Schick test performed shortly after an administration of Scarlet Fever Antitoxin were informed by letter of the circumstances and urged to have the test repeated at the clinics.

SECTION III. (*a*).

Venereal Diseases Scheme.

ANNUAL REPORT, 1931.

In Appendix I will be found the Annual Returns for 1931 rendered to the Ministry of Health, and in Appendix II is set out the Revised Standard Syphilis Courses.

TABLE I.

Patients dealt with during 1931.

Description.	Venereal.			Non-venereal.			Total, all cases.		Grand Total.
	M.	F.	Total	M.	F.	Total	M.	F.	
Patients remaining on 1st January, 1931, from previous years......	741	211	952	140	40	180	881	251	1,132
New cases (including returned defaulters prior to 1931)........	949	216	1.165	859	212	1,071	1,808	428	2,236
Totals........	1,690	427	2,117	999	252	1,251	2,689	679	3,368

TABLE II.

Patients disposed of during 1931.

Mode of Disposal.	Venereal.			Non-venereal.			Total, all cases.		Grand Total.
	M.	F.	Total	M.	F.	Total	M.	F.	
Cured	277	54	331	759	222	981	1,036	276	1,312
Defaulted before completing treatment*	196	99	295	..	..	..	196	99	295
Defaulted before completing tests for cure	120	7	127	..	..	..	120	7	127
Transferred	203	20	223	67	2	69	270	22	292
Total	796	180	976	826	224	1,050	1,622	404	2,026

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* Inclusive of 66 patients who defaulted before completing the first series of injections for syphilis.

TABLE III.

PATIENTS REMAINING ON 31ST DECEMBER, 1931.

Venereal.			Non-venereal.			Total, all cases.		Grand Total.
M.	F.	Total.	M.	F.	Total.	M.	F.	
894	247	1,141	173	28	201	1,067	275	1,342

At the end of 1931 the Municipal Clinic had been in existence for three years and nine months. During that time 7,725 patients were treated. These are classified for every year by sex and disease in Table IV.

TABLE IV.

TOTAL CASES—NEW AND OLD, 1928 TO 1931.

	1928.			1929.			1930.			1931.			Total.		Grand Total.
	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	
Syphilis.......	220	46	266	326	87	413	336	116	452	316	129	445	1,198	378	1,576
Chancroid	15	—	15	20	—	20	20	—	20	2	—	2	57	—	57
Gonorrhœa ...	526	73	599	671	88	759	670	124	794	631	87	718	2,498	372	2,870
Total V.D.	761	119	880	1,017	175	1,192	1,026	240	1,266	949	216	1,165	3,753	750	4,503
Non-V.D.	279	61	340	516	220	736	779	296	1,075	859	212	1,071	2,433	789	3 222
Total, All Cases	1,040	180	1,220	1,533	395	1,928	1,805	536	2,341	1,808	428	2,236	6,186	1,539	7.725

Of all the cases of venereal diseases attending the clinic since its opening, the proportion of syphilis is approximately 40 per cent.

New Patients (Venereal Diseases).

The new patients suffering from venereal diseases are classified in Table V according to sex, disease, and duration of symptoms.

TABLE V.

New Patients (V.D.), 1931.

Sex.	Disease.	Duration.		Totals.		
		Over one year.	Under one year.			
Males	Syphilis	123	148	271	858	
	Chancroid	..	2	2		
	Gonorrhœa	21	564	585		
	Total Males	144	714	858		1,062*
Females	Syphilis	70	51	121	204	
	Chancroid	..	..	..		
	Gonorrhœa	9	74	83		
	Total Females	79	125	204		
	Grand Total (M. & F.)	223	839	1,062*		

* This figure is exclusive of 40 patients who defaulted in previous years and returned in 1931 with the same infection, and 63 patients who had Treatment at other centres before coming to the Municipal Clinic.

From 1928 there has been recorded an annual increase in the proportion of new cases suffering from syphilis, thus : 1928, 30 per cent ; 1929, 34 per cent ; 1930, 35 per cent ; and 1931, 41 per cent.

It is not considered that this indicates an increase in the amount of syphilis occurring in the community, but merely that, by earlier diagnosis and better diagnostic methods, more cases of that disease are being detected. In the Tutorial Classes which have been held in the Municipal Clinic, very great stress has been laid upon the value of the routine Wassermann test. This procedure is now adopted by many practitioners in the area, with the result that a great many cases of unsuspected syphilis are found, and are sent to the Clinic for treatment.

The Table which appeared in the two previous Reports, showing a percentage analysis of the occupations of new patients, is omitted on this occasion. The facts revealed were the same as before, namely, that the most heavily infected section of the male population is that engaged in transport and communication work ; and also that 60 per cent of female patients are married. The implications involved in this have been pointed out on previous occasions. Various remedial measures have been suggested. So far, however, neither the facts themselves nor the remedies advised have made the slightest impression upon the inertia of public opinion.

The analysis of patients according to age and marital condition has likewise been omitted, because the facts revealed were substantially those shown in former Reports. Failure to appreciate such vital facts and to act vigorously upon them, must, of course, render the general Venereal Diseases Scheme for the country incomplete and in many respects futile. It is neither rational nor economical to deal with a gas-escape by spraying the surrounding atmosphere with attar of roses. The business-like method—and the only successful one—of tackling the matter is, when the site of the trouble has been located, to seal up the leak. Not until there is a continuous and energetic campaign of sexual education in the Area, can that leak be stopped. Until that comes to pass, all that the Clinic can do is to attempt to salve some of the wreckage which drifts within its walls, primarily in the interests, not of the patient, but of the healthy community.

Table VI indicates very clearly the incidence of new cases, year by year, since 1926.

TABLE VI.

V.D. Cases Only.*

	Syphilis.			Chancroid.			Gonorrhœa.			Total V.D.		Grand Total.
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	
1931......	316	129	445	2	..	2	631	87	718	949	216	1,165
1930......	336	116	452	20	..	20	670	124	794	1,026	240	1,266
1929......	326	87	413	20	..	20	671	88	759	1,017	175	1,192
1928......	220	46	266	15	..	15	526	73	599	761	119	880
1927......	87	45	132	..	..	..	193	20	213	280	65	345
1926......	90	38	118	..	..	..	166	25	191	256	63	309
Average for 5 years..	194·1	61·1	225·2	9·1	..	9·1	404·8	60·2	465	668	132 4	727·8

The figures in this table are inclusive of cases dealt with for the first time in the respective years, who are known to have received treatment at other Centres for the same infection, and also those removed from the Register in previous years who returned with the same infection in succeeding years.

It will be seen from the above that in each disease category there has been a decrease from the figures for 1930. It is not considered that any valid inference can be drawn from this.

The annual incidence of non-venereal cases is set out below :—

TABLE VII.

NON V.D. CASES.

Year.	Sex.		Total.
	Males.	Females.	
1931	859	212	1,071
1930	779	296	1,075
1929	516	220	736
1928	279	61	340
1927	86	47	133
1926	107	43	150
Average for 5 years	307·5	118·1	452·6

New Patients. (Syphilis.)

In Table VIII are set out the figures showing the stages of syphilis in which new patients presented themselves during 1931.

TABLE VIII.

DEGREES OF SYPHILIS IN WHICH NEW CASES PRESENTED THEMSELVES.

Stage of Disease.	Males.	Females.	Total.
EARLY.			
Sero-Negative Primary	60	3	63
Sero-Positive Primary	40	10	50
Early Secondary	19	12	31
Late Secondary	13	12	25
Total Early Syphilis	132	37	169
LATE.			
Endosyphilis	80	55	143
Tertiary Syphilis	14	5	19
Neurosyphilis	8	8	16
Congenital Syphilis	27	18	45
Total Late Syphilis	137	86	223
Grand Total	269	123	392

It will be seen that this Table is constructed according to the Salford Municipal Clinic classification, and not according to that adopted by the

Ministry of Health, as embodied in the revised Annual Return. The differences between the two will be made clear from an examination of the following :—

		CLINIC CLASSIFICATION.	MINISTRY CLASSIFICATION.
Early	I.	Sero-neg. primary	Primary—S.1.
	II.	Sero-pos. primary	
	III.	Early secondary	Secondary—S.2.
	IV.	Late secondary	
Late	V.	Endosyph. chancre under year ago	Latent in 1st year of inf.—S.3.
		Endosyph. chancre over year ago	
	VI.	Tertiary syphilis	All later stages—S.4.
	VII.	Neurosyphilis	
	VIII.	Congenital—	Congenital—S.5.
		(1) Under 1 year of age	
		(2) 1 to 5 years of age	
		(3) 5 to 15 years of age	
		(4) 15 years and over	

The suitability of a classification of the stages of syphilis is to be gauged by its relationship to the degree of treatment required to eradicate the disease ; and that in turn upon the underlying pathological picture.

The sub-division of primary syphilis into sero-negative and sero-positive degrees is one which is of great importance. This was well brought out in the Medical Research Council's Special Report, No. 132, by Col. L. W. Harrison, D.S.O., in his analysis of cases treated at St. Thomas's Hospital in London. He states : " In respect of this later response to treatment, the outlook for originally sero-negative primary cases appears to be distinctly better than that of sero-positive cases, . . ." This is reflected in the difference between the routine courses at the Municipal Clinic for these two degrees of the disease. In sero-negative cases treatment extends for 26 weeks, whereas in sero-positive cases 34 weeks of therapy are required. Similarly for secondary syphilis ; this is, at the Municipal Clinic, classified as Early and Late. The course for the former occupies 40 weeks, and for the latter 48 weeks.

In the diagnosis-space on the Clinic case-cards, both classifications are inserted—the Ministry classification merely for the purpose of compiling the Annual Return.

Table VIII again shows very clearly that men attend for early syphilis in greater proportion than do women. The bulk of female syphilitics are suffering from endosyphilis—that is, no pathognomonic signs are present, but the result of the Wassermann test is positive. As most of the women are of the child-bearing age, the importance of this is clear.

New Patients. (Congenital Syphilis.)

During 1931 there were 30 new cases of congenital syphilis who were under 15 years of age. These are analysed in Table IX.

TABLE IX.

NEW CASES UNDER 15 YEARS OF AGE SUFFERING FROM CONGENITAL SYPHILIS.

How Sent.	Sex.		Total.	Per cent.
	Males.	Females.		
Eye Clinic	6	2	8	26·6
School Medical Officer	4	2	6	20·0
Other Hospitals	2	2	4	13·3
M. and C. W. Department	1	3	4	13·3
Parents Attending Clinic	2	2	4	13·3
School Dentist	2	1	3	10·0
Brother or Sister Attending Clinic	1	..	1	3·5
Private Practitioners	..	..	..	..
Totals	18	12	30	100

Most of the patients were referred to this Treatment Centre by Dr. Dorothy Simmons of the Eye Clinic of the School Medical Department. The bulk of these cases were suffering from interstitial keratitis. It is rather surprising and somewhat disappointing that no cases of congenital syphilis were sent by private practitioners. One cannot but suspect that this means a failure to diagnose the condition when seen. So long as congenital syphilis is thought to mean only the presence of saddle-nose, Hutchinson's teeth, oval fissures, and interstitial keratitis, for as long will the majority of the cases remain undiagnosed. The conditions just mentioned are the rarities—the museum specimens—of congenital syphilis.

New Patients (Chancroid).

It will be seen from Table VI that there were only two cases of chancroid diagnosed in 1931, as against 20 in 1930, 20 in 1929, and 15 in 1928.

According to the Venereal Diseases Act of 1917, the expression "venereal disease" means syphilis, gonorrhœa, or soft-chancre—the last being termed "chancroid" in this Report. The Act does not lay down any diagnosis criteria for these diseases.

In practice there are three diagnostic criteria: (1) Clinical, (2) Pathological, and (3) Therapeutic. From a purely practical working standpoint, positive clinical and therapeutic findings may be sufficient for a diagnosis. From both the scientific and legal aspects, however, pathological proof is essential. While this is true of disease in general, it is especially true with respect to venereal diseases.

A diagnosis of syphilis and of gonorrhœa is only made in this Clinic when pathological criteria are fulfilled, except in certain treated cases of syphilis where the amount of therapy given has fallen below an efficiency index of 70. With regard to syphilis and gonorrhœa, no real diagnostic difficulty arises.

When the question of chancroid is considered, however, it is a very different story. During 1931 genital non-syphilitic sores were not diagnosed as chancroids unless in them there could be demonstrated Ducrey's bacillus, or unless the intradermic test with Dmelcos vaccine gave a positive result. This explains the paucity of cases recorded during that year. If the causal organism is that bacillus, then the finding of it in a lesion is the only way of establishing a diagnosis. But that organism is extremely difficult to find, even in lesions which correspond in every way with the classical clinical description. In lesions which are clinically chancroids, but in which the organism cannot be demonstrated, scientific and legal proof of the diagnosis is wanting. Because of requiring pathological proof, and the rarity with which it was found, a large number of genital non-syphilitic lesions seen in 1931 were labelled "non-venereal" although corresponding clinically with chancroids. Undoubtedly, in this way, a false impression as to the incidence of this disease is conveyed by Table VI.

There does not appear to be enough evidence that what is known as "soft sore" or "chancroid" is a specific disease caused by a particular micro-organism. The present position is unsatisfactory because of the large number of genital lesions which are acquired during sexual congress, but which by Act of Parliament are non-venereal—that is, they cannot be shown to be due to the treponema pallidum, the gonococcus, or to the bacillus of Ducrey. Some of these affections are just as contagious to others, and as distressing and disabling to the patient, as any of the "official" venereal diseases. Indeed, they may be much more troublesome, At present all such cases are lumped together under the heading : "Conditions other than venereal."

The term "venereal disease," even when sanctified by statutory definition, is a very unsatisfactory one. It was suggested some years ago that the word "venereal" should be discarded altogether and that of "enthetic" substituted. And an excellent suggestion that was. Instead of "venereal," meaning syphilis, chancroid, or gonorrhœa—whether acquired venereally or not—it would be a great advantage to group under the term "enthetic" all contagious lesions and disorders of the genital organs, and their sequelæ either in the infected person or in his or her offspring.

A departure of this kind from hallowed custom is, of course, not to be anticipated immediately: but it is suggested that the present category "Conditions other than venereal" should be sub-divided into "genital sores other than chancroid," "balanitis," "paraphimosis," and so on.

For the future, in the Municipal Clinic, the diagnosis of chancroid will be made on clinical evidence; but in every case the patient will remain under observation for 12 weeks in order to decide as to the presence or absence of syphilis.

New Patients (Gonorrhœa).

An examination of Table VI will show that in 1931 there was a considerable decrease in the number of new cases suffering from gonorrhœa, as compared with the figures for 1929 and 1930.

New Patients (Non-Venereal).

The figures for these cases, year by year, and the average for the five years prior to 1931 are set out in Table VII.

New Patients (Analysis according to residental area).

TABLE X.

Annual New Cases (V.D. and Non-V.D.) According to Residential Areas.

Area.	1931.		1930.		1929.		1928.		1928-1931.	
	No.	%	No.	%	No.	%	No.	%	No.	%
Salford	918	42·1	1.103	47·1	956	49·8	604	49·5	3,581	46·3
Manchester	641	27·6	612	26·1	511	26·3	263	21·5	2,027	26·3
Lancashire	359	16·1	298	12·8	193	10·2	115	9·5	965	12·5
Cheshire	73	3·2	68	2·9	50	2·5	42	3·5	233	3·2
Other Areas	74	3·3	81	3·4	37	1·6	58	4·7	250	3·3
British Seamen	103	4·6	98	4·3	115	6·1	85	6·9	401	5·2
Foreign Seamen	68	3·1	81	3·4	66	3·5	53	4·4	268	3·2
Total	2.236	100	2,341	100	1,928	100	1.220	100	7,725	100

It will be seen from the above table that from 1928 to 1931 the percentage of Salford residents treated has fallen from 49·5 to 42·1. On the other hand, the percentage of Manchester residents treated has risen from 21·5 in 1928 to 27·6 in 1931. The Lancashire proportion has increased in the same period from 9·5 to 16·1. This means that these two latter areas provide the Municipal Clinic with 43·7 per cent of its new patients, or 1·6 per cent more than does the City of Salford. Of the total, 57·9 per cent of the patients are not Salford ratepayers.

Total Attendances.

A similar state of affairs is revealed by the analysis of total attendances by areas in Table XI.

TABLE XI.

	1931.		1930.		1929.		1928.		1928-29-30-31.	
Total Attendances (All Areas)	100,922		92.954		70,606		35,503		299,985	
	No.	%	No.	%	No.	%	No.	%	No.	%
Salford	42,398	42·1	47,851	51·4	38.448	54·5	18,729	55·0	147,426	50·7
Manchester........	32,617	32·3	26.650	28·6	20,223	28·7	9.903	28·0	89.393	29·6
Lancashire	18,218	18·0	12,371	13·2	7.860	11·1	3,848	10·8	42.297	13·1
Cheshire	3.960	3·9	2,823	3·0	1.012	2·1	1,012	2·8	9.231	2·7
Other Areas.......	2,112	2·1	1.865	2·0	786	1·1	994	2·6	5.757	1·9
Seaman	1.617	1·6	1,394	1·8	1.753	2·5	1.017	2·8	5.781	2·0

Here again 42·1 per cent of the work is in respect of Salford patients, while 32·3 and 18·0 per cent is in respect of Manchester and Lancashire residents respectively. In other words, over 50 per cent of the Clinic work is devoted to patients living in these last two areas, Cheshire, Other Areas, and Seamen account for the remaining 7·6 per cent.

There has thus been a progressive decrease in work done for the local population ever since the Clinic opened, and a similarly progressive increase in respect of the neighbouring areas of Manchester and Lancashire. The cost of treating these "extra-Salford" patients is, of course, borne by the Local Authorities concerned; so that in reality some 50 per cent of the cost of the Scheme does not fall upon the Salford ratepayer. In the year before the Municipal Clinic was opened, nearly 70 per cent of the cost was borne by the City of Salford.

A point regarding attendances must again be mentioned, and that is the extreme difficulty which is experienced in prevailing upon parents or guardians to bring children for treatment. The following is a typical example:—

"L.B.", a little girl aged 10 years, was sent to the Clinic from the Eye Department on 27th November, 1929, suffering from interstitial keratitis (syphilitic inflammation) of the right eye. Symptoms had been present for six days. Some six months previously "L.B." had attended another hospital on account of some skin trouble which, from the treatment given, was apparently syphilitic in nature. The mother stated that the rest of the family—five girls and one boy—were healthy. "L.B." herself is the second eldest child. The mother is of the opinion—quite erroneously—that there is nothing the matter with either herself or her husband.

That the child was suffering from congenital syphilis was proved by the strongly positive result given by the Wassermann test. Treatment was begun on 27th November, 1929, the parents being informed that the child must attend regularly for treatment twice weekly. The first course of treatment was designed to extend for 20 weeks. During this time the child was absent for four weeks. Another course of 20 weeks was instituted and again the child defaulted for 17 weeks. In the next 20 weeks the patient was absent for 15 of them. In the fourth 20 weeks' period only two weeks of attendance were recorded. During the next four months the girl did not attend at all. On the 109th week since first being seen, she returned to the Clinic with a commencing syphilitic inflammation of the left—hitherto sound—eye. She was now totally blind in the right eye. She was then admitted to Hope Hospital on 17th December, 1931, the permission of the parents being obtained with some difficulty. There she still was at the end of the year, and the best that can be hoped for is a retention of half the sight of the left eye. The child is permanently damaged ; she will have practically no value in the labour market, and she will for the remainder of her life be a burden upon the community.

That such a state of affairs should be permitted to occur is iniquitous : and it is unfortunate, to say the least, that the law as it exists precludes the authority from taking action against the parents or guardians under the Children Act of 1908, simply because the information was acquired at a Venereal Diseases Treatment Centre. If only legal action were permissible, one or two convictions with severe sentences would, provided there were good publicity in the Press, put an end to such callous cruelty, the like of which is severely punished if meted out to a horse or a mongrel dog. The parents of the child in question have as surely blinded her as if they had destroyed her sight by red-hot irons.

The total attendances in 1931 reached the huge total of 100,922. It is interesting to compare this figure with those of other large cities.

TABLE XII.

Comparison Between Salford and Fourteen Other Large Cities.

City.	Population.	Attendances.		
		M.O.	Intermediate.	Total.
SALFORD	225,900	40,706	60,216	100,922
Birmingham*	968,550	55,480	37,800	93,280
Bradford	289,200	8,390	16,032	24,962
Bristol	391,300	15,502	30,318	45,883
Hull	299,900	19,857	18,400	38,251
Leeds	478,500	44,384	31,901	76,285
Leicester	245,200	27,098	11,477	38,575
Liverpool†	872,802	60,699	69,305	130,004
Manchester†	770,665	65,404	38,410	103,814
Newcastle	283,400	32,173	12,315	44,488
Nottingham	266,800	35,400	35,670	71,070
Plymouth	213,500	8,428	8,918	17,346
Portsmouth	242,000	7,328	11,096	18,424
Sheffield	518,000	20,642	21,856	42,498
Stoke-on-Trent	279,200	14,148	21,623	35,771

* Three Treatment Centres.
† Five Treatment Centres.

The only places which come within reasonable proximity to Salford, so far as attendances go, are Birmingham, Liverpool and Manchester. The first has three Treatment Centres and the others have five each, Salford has only one Treatment Centre. It is quite clear that where transport facilities are good, one central whole-time clinic is a better means of serving a population of anything under one million, that several part-time Treatment Centres scattered throughout the district.

The attendances even now are not high enough at the Municipal Clinic, and this is chiefly due to the fact that the staff is not sufficient in number to have Medical Officers attending on Friday and Saturday evenings. Lack of personnel practically compels a concentration of patients at particular hours on particular days ; and the trouble with this is that it may reach a point where the work becomes hurried and not enough individual attention can be given to each case. Patients then tend to "slack off," and in consequence the results of treatment become unsatisfactory.

The figures show, however, that outside of London the Municipal Clinic is the largest and busiest single Treatment Centre in the country.

The usual charts are attached. Chart I shows (1) the new cases handled ; (2) the number dealt with individually by Medical Officers ; (3) the intermediate ; and (4) the total attendances registered since the Venereal Disease Scheme for Salford was established. The corresponding

CHART No. I.

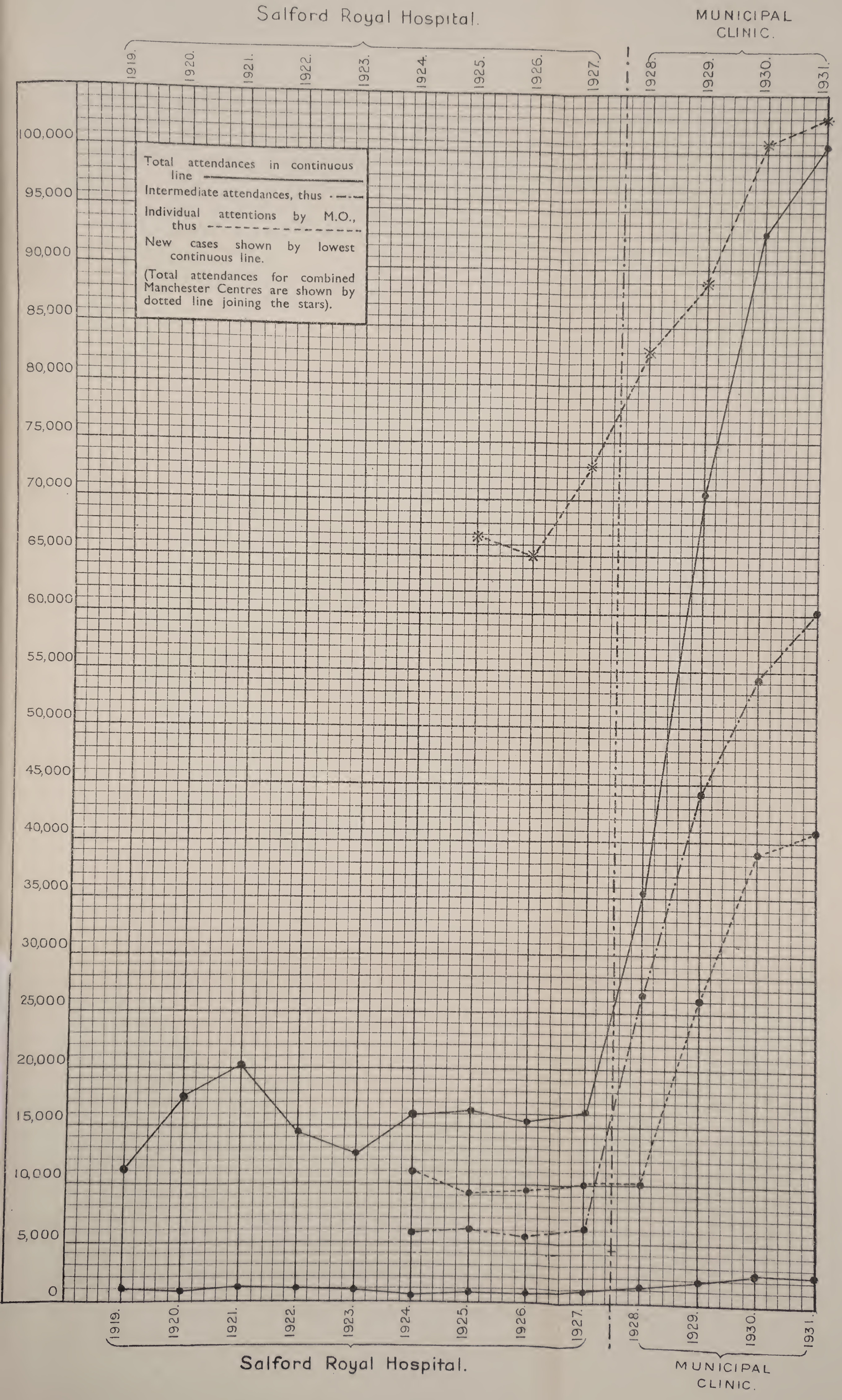

Salford Royal Hospital.
MUNICIPAL CLINIC.
1919.
1920.
1921.
1922.
1923.
1924.
1925.
1926.
1927.
1928.
1929.
1930.
1931.
100,000
95,000
90,000
85,000
80,000
75,000
70,000
65,000
60,000
55,000
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Total attendances in continuous line
Intermediate attendances, thus
Individual attentions by M.O., thus
New cases shown by lowest continuous line.
(Total attendances for combined Manchester Centres are shown by dotted line joining the stars).
Salford Royal Hospital.
MUNICIPAL CLINIC.

CHART Nº 2

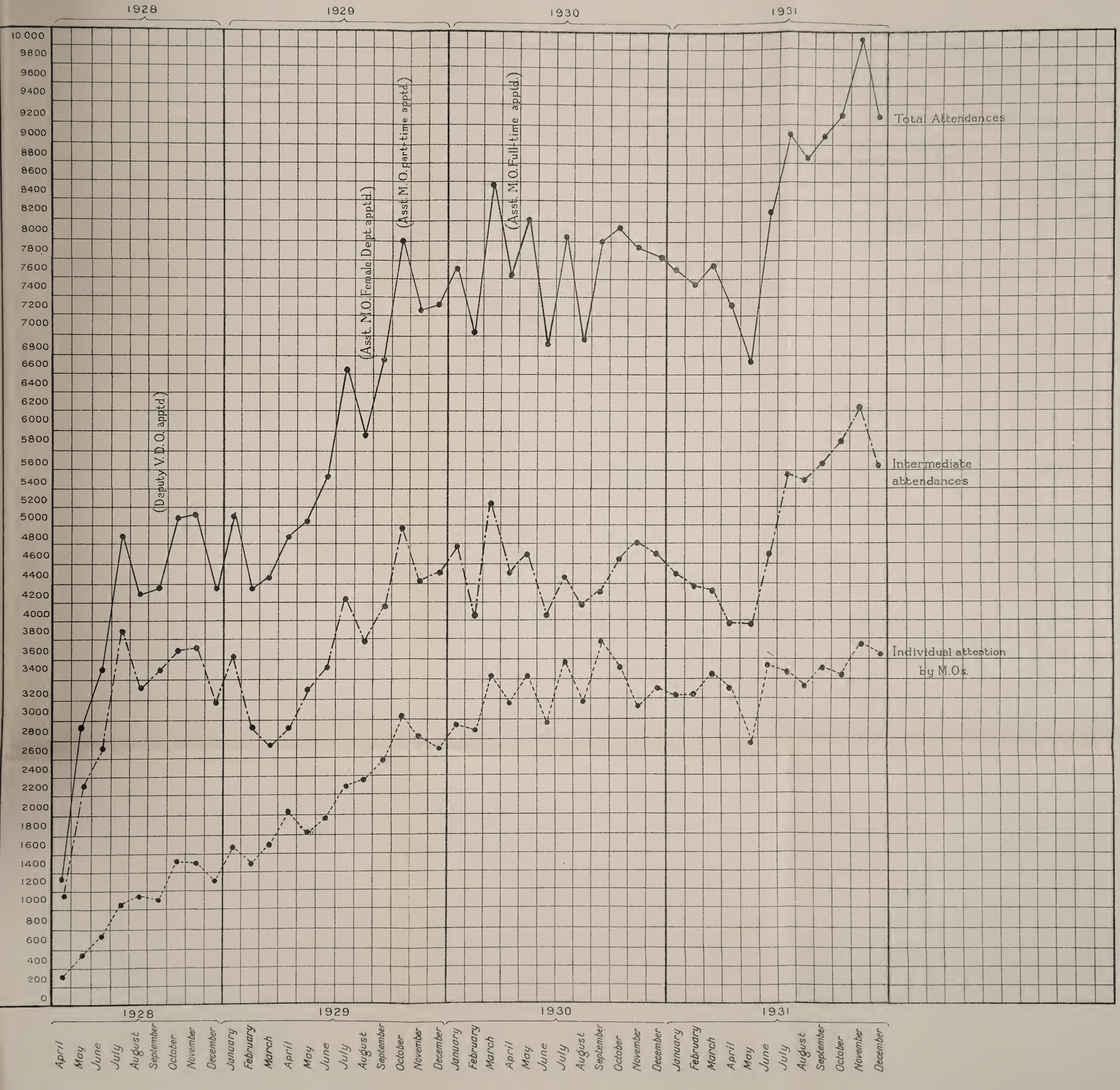

1928
1929
1930
1931
10 000
9800
9600
9400
9200
9000
8800
8600
8400
8200
8000
7800
7600
7400
7200
7000
6800
6600
6400
6200
6000
5800
5600
5400
5200
5000
4800
4600
4400
4200
4000
3800
3600
3400
3200
3000
2800
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
(Deputy V. D. O. apptd.)
(Asst. M.O. Female Dept. apptd.)
(Asst. M. O. part-time apptd.)
(Asst. M.O. Full-time apptd.)
Total Attendances
Intermediate attendances
Individual attention by M.Os.
April
May
June
July
August
September
October
November
December
January
February
March
April
May
June
July
August
September
October
November
December
January
February
March
April
May
June
July
August
September
October
November
December
January
February
March
April
May
June
July
August
September
October
November
December

CHART Nº 3.

(Female Dept.)

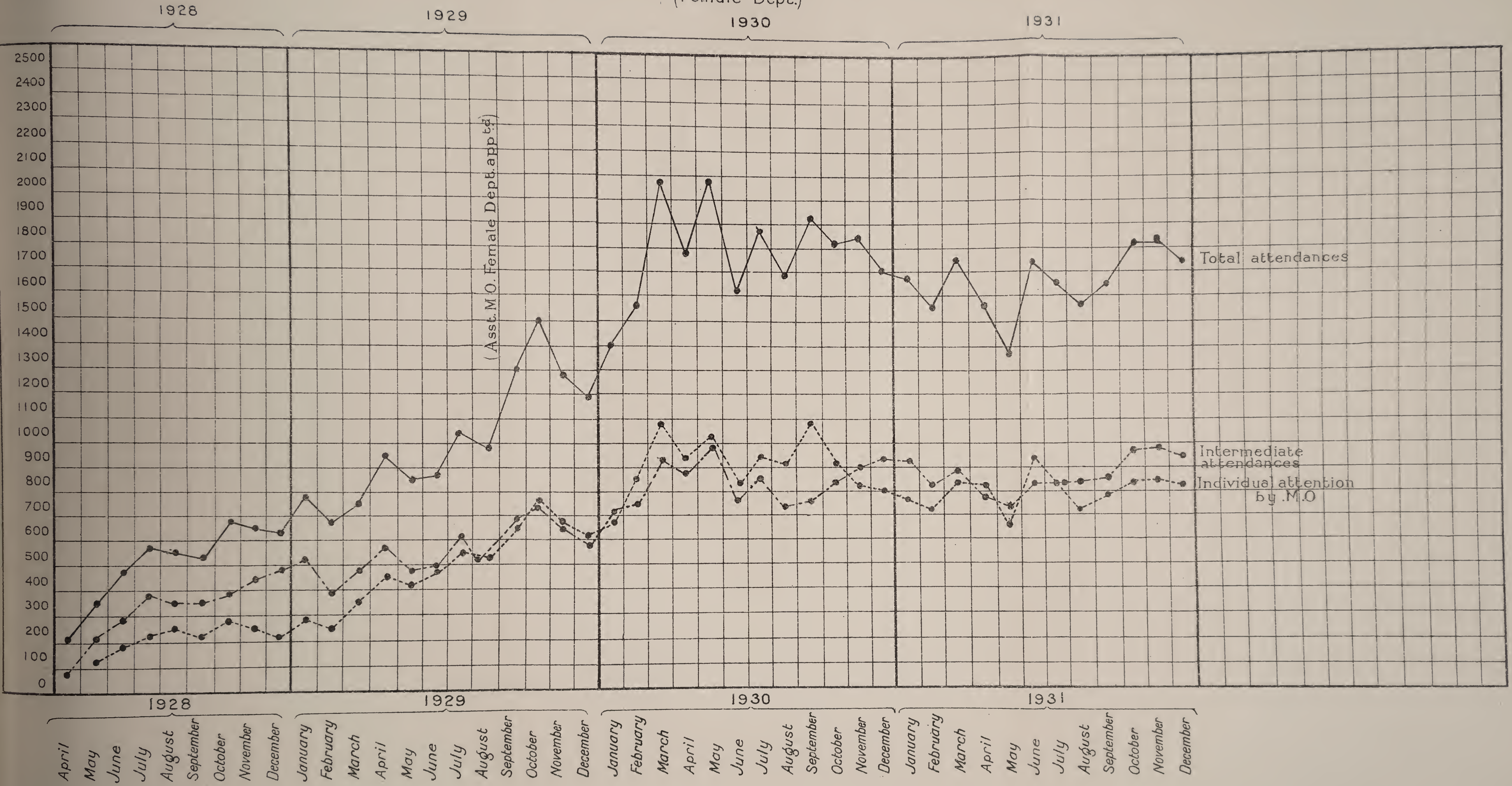
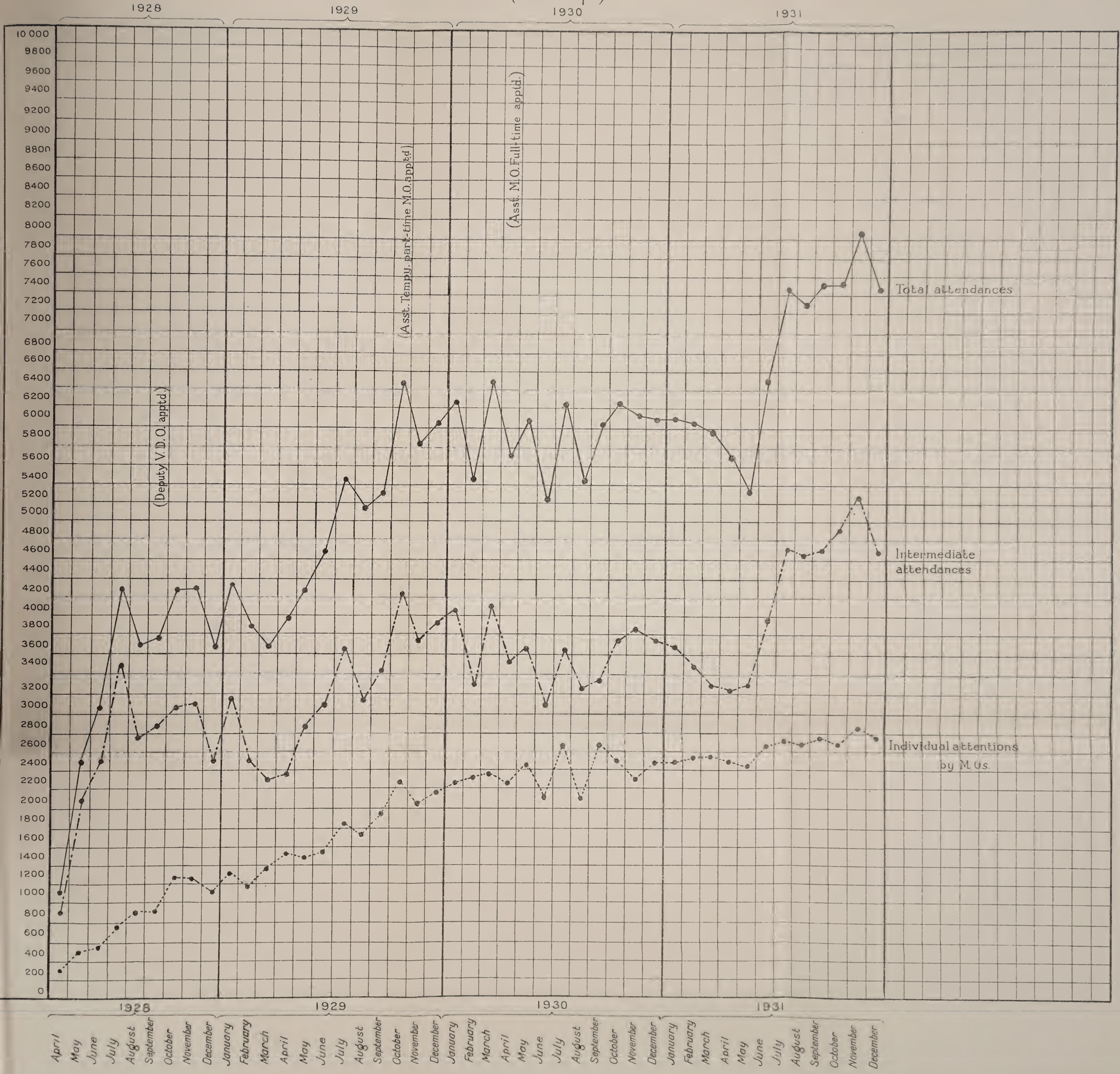


CHART Nº 4.
(Male Dept.)



figures for the five combined Manchester Centres are also shown. It will be seen that year by year Salford is gradually approaching the figures of its great neighbour.

Chart II shows the attendances month by month since the Clinic was opened.

In Chart III is shown the progress of the Female Department of the Municipal Clinic.

Chart IV is a similar record of the Male Department. These last two charts show that the attendance of patients for intermediate treatment is more satisfactory in the Male Department. On the Female side there ought to be a greater separation between the line of M.O. attentions and that of intermediate attendances—that is, the latter should be higher.

In the next table is shown the average number of attendances per year per patient.

TABLE XIII.

Year.	Average Number of Annual Attendances per Patient.
1931	29·9
1930	28·9
1929	29·5
1928	29·1

In Table XIV are shown in a comparative form the attendances for the schemes of other local authorities.

TABLE XIV.

Clinic.	Average Number of Annual Attendances per Patient.
SALFORD	29·90
Birmingham	14·12
Bradford	15·01
Bristol	13·19
Hull	10·59
Leeds	18·55
Leicester	15·80
Liverpool	12·62
Manchester	9·81
Newcastle	15·29
Nottingham	16·84
Plymouth	12·00
Portsmouth	15·92
Sheffield	15·10
Stoke-on-Trent	27·54

In previous reports the average number of attendances per patient per year was calculated as total attendances divided by new cases enrolled during the year. This method contained many fallacies. In the last two tables the figures are arrived at by dividing the total attendances by all cases—old and new—attending during the year. This again does not give an absolutely accurate figure, but it is relatively satisfactory. It is, moreover, the method of calculation used in "Health and Empire," by Dr, M. Smith-Wilson in analysing the annual venereal disease reports for England and Wales.

The figures in Table XIV for clinics other than Salford aro taken from "Health and Empire," Vol. VI. 1931, pages 22-37. It will be observed that Salford tops the list, and that its nearest rival is Stoke-on-Trent, where the Treatment Centre is likewise whole-time and *ad hoc* in character.

Defaulters.

The total number of patients suffering from venereal disease who failed to complete the course of treatment prescribed for them amounted to 295. Reckoned upon the total number of venereal disease patients attending during the year—2,117—the proportion of defaulters works out at 13·9 per cent. The number of dangerous defaulters—those who failed to complete one course of treatment when suffering from syphilis, plus all the gonorrhœa patients who ceased to attend before completion of treatment—amounted to 187. This gives a dangerous defaulter rate of only 8·8 per cent. This represents a highly satisfactory condition of affairs.

Cured Cases.

In considering these the non-venereal cases are excluded. Out of 2,117 venereal patients attending, 331 were discharged cured—a rate of over 15 per cent. It is to be noted that as time goes on the proportion of cured syphilitics will rise. This is due to the fact that a patient is not written off as cured until he has completed an observation period of two years since the cessation of treatment. It is only now that patients who attended for tho first time in 1928 with early syphilis are being discharged as cured. Patients who in that year came under treatment for late syphilis will not appear as cured cases until several years have elapsed.

Transferred Cases.

During the year there were enrolled 70 patients who were known to have received treatment at other Centres for the same infection. Only a trivial proportion of these were able to produce Transfer Books (V.15) from the Clinic at which they originally attended. In most cases this is, no doubt, the fault of the patient, who fails to notify the Medical Officer concerned. Again, many Transfer Books fail to show what, in the opinion of tho original Medical Officer, constitutes adequate treatment for that particular patient. The result of this is that succeeding Medical Officers find great difficulty in knowing when to leave off treatment. By utilising the method evolved in this Clinic for the evaluation of therapy, this difficulty has been overcome. A patient is not considered to have had sufficient treatment so long as the Efficiency Index remains below 70.

What is really required with respect to Transfer Books is that the Medical Officer who deals with the case in tho first instance should indicate clearly of what his course of treatment consists. Without that it is impossible for other Medical Officers to co-operate successfully. In the Municipal Clinic when a patient is transferred-out, a printed copy of the course he is on is pasted into the Transfer Book. The suggestion has already been made elsewhere that some "Standard" course should be adopted for sailors, and for those whose occupation prevents them being under one Centre only, and that this course should be printed as part of V.15 and V.45.

TABLE XV.

IN PATIENTS.

		Venereal.				Not V.D.	Total, All Cases.
		Syphilis.	Chancroid.	Gonorrhœa	Total V.D.		
1928.	Males	111	38	262	411	40	451
	Females ...	16	..	61	77	..	77
	Total (1) .	127	38	323	488	40	528
1929.	Males......	505	52	729	1,286	218	1,504
	Females ...	8	..	36	44	..	44
	Total (2) .	513	52	765	1,330	218	1,548
1930.	Males......	358	119	633	1,110	296	1,406
	Females ...	78	..	..	78	69	147
	Total (3) .	436	119	633	1,188	365	1,553
1931.	Males......	350	..	347	697	182	879
	Females ...	515	..	615	1,130	75	1,205
	Total (4) .	865	..	962	1,827	257	2,084

Total (1, 2, 3, 4) 1,941 209 2,683 880

Total V.D. 4,833

Grand Total 5,713

The accommodation available is still not nearly sufficient for either sex. It is becoming urgent that there be provided a special ward at Hopo

Hospital for male cases, and also that an increased number of female beds be available for V.D. cases in that Institution.

The Female Ward at Hope Hospital, which was opened on 12th June, 1931, has been a great boon and has been much appreciated by patients. These beds have been occupied for 1,205 days, the average stay in Hospital per patient being 34·4 days.

For men, the average stay in Hospital per patient was 11·2 days. Even with this short time the number of male beds is not enough. As women more often than men require bed-accommodation, and for a longer time, it is clear that the six female beds possessed at present are insufficient.

The number of operations performed in 1931 was 43. The following shows the operative work done year by year since the Clinic opened :—

Year.	No. of Operations.
1928..	15
1929..	76
1930..	77
1931..	43
Total	211

Practically all of these involved the use of a general anæsthetic. Since the opening of the Female Ward at Hope Hospital, all female operative work is done there by the Hospital Staff.

Pathological Examinations.

The number of these examinations carried out in a year is indicated in Table XVI.

TABLE XVI.

PATHOLOGICAL EXAMINATIONS.

		Syphilis.			Gonorrhœa.			Total (S. & G.).	Grand Total.
		Treponema Pallidum.	Wass.	Total (S.).	Gonococci.	Pus Indices.	Total (G.).		
1928....	Clinic..	30	..	483	1.241	2,020	3.261	3,744	35,079
	Lab....	..	453		..	..	..		
1929....	Clinic..	81	..	1,798	3,979	2.651	6,630	8,428	
	Lab....	..	1,717		..	..	..		
1930....	Clinic..	152	..	3,394	5,599	2.268	7,867	11,261	
	Lab....	..	3,242		..	..	..		
1931....	Clinic..	286	..	3,771	6,146	1.729	7.875	11,646	
	Lab....	..	3,485		..	..	..		
	Totals .	549	8,897		16,965	8,668			
		9,446			25,633				
Grand Total		35,079							

The increase in 1931 is not so marked as in previous years, the falling-off being in respect of urinary pus-counts. On account of increased work with no corresponding accession of staff, some reduction in pathological examinations had, unfortunately, to be made. It was considered that to make it here would cause the minimum of damage.

As was indicated in the previous Report, it is proposed in 1932 to do the Kahn test in addition to the Wassermann. It seems to be gradually becoming recognised that the former is the better test, and all the indications are that, as has occurred in several services, it will eventually replace the Wassermann entirely. In the meantime, however, there is, without doubt, a great advantage in running the two tests together.

The General Public Health Pathological Laboratory finds it impossible to perform the Wassermann more than once a week, and this does not fully meet the requirements of the Clinic. The lack of the fullest laboratory facilities and the unavoidable present delay in carrying out the tests, handicaps the work of treatment very considerably. Only by full and continuous pathological control of treatment can methods be improved and real economies in therapy be effected. One cannot emphasise too strongly that it is only by continuous laboratory checking, by the analysis of case-records, and by research, that diagnosis and therapeutic methods can be improved. The main aim is to cure the patient in the shortest possible time at the lowest possible cost. Every means that tends to secure this must be adopted in the Clinic.

Treatment.

Although experimental work still continues, the routine schemes for the treatment of syphilis and gonorrhœa remain unaltered. The anlysis of the results of treatment of early cases of syphilis is not yet completed, but everything indicates that the schemes in operation are essentially sound, and that the results obtained are second to none.

Staff.

In 1932 an effort is to be made to increase the sessional facilities so that patients may have increased opportunities for individual attention by Medical Officers. Wherever a staff is hardly sufficient in numbers, the natural tendency is to persuade patients to concentrate their attendances into certain days. The end result of this is that on certain occasions, such is the rush of patients that Medical Officers cannot render them the individual attention which a whole-time Clinic implies. In the near future arrangements will be made so that during the week there will be 17 sessions for men during which a Medical Officer will be present, and 16 similar sessions for women. These will include sessions on Friday and Saturday evenings.

General.

During the winter of 1931, the advertised course of post-graduate instruction for the Ministry of Health certificate had to be abandoned on account of illness. It is proposed to carry out this part of the duties of the Clinic early in 1932.

It is desired to express thanks to Dr. E. N. Ramsbottom, the Tuberculosis Officer, for his kindness and most appreciated help with respect to taking X-ray photographs of and sending reports upon patients from the Clinic referred to him. The splendid photographs, especially of cardiovascular and pulmonary syphilitic conditions, taken by him, have been of immense clinical value.

A great many cases have been referred to the Venereal Diseases Officer, for him to see in the general wards at Hope Hospital. This is most important work, and there is now established a close liaison between that Institution and the Municipal Clinic. Dr. J. D. Giles, the Medical Superintendent; has been extremely helpful, and thanks are due to him for the way in which my requirements in respect of the Female Ward have been met.

During the year thirty post-graduates attended the three months' course of instruction for the Ministry of Health certificate.

Dr. Andrew Bury and Dr. A. W. Ritchie have rendered the medical staff very great and much appreciated service for the past twelve months, At holiday times and on occasions of sickness they have acted as locums. and apart from that they have attended voluntarily during the whole year on the two busiest evenings of the week. On many occasions without them the permanent staff would have been overwhelmed. Dr. Mary Wilson acted as holiday locum in the Female Department in a highly efficient manner.

Once again it is desired to record appreciation of the services of the medical, nursing, orderly and office staffs.

VENEREAL DISEASES—APPENDIX I.

RETURN RELATING TO ALL PERSONS WHO WERE TREATED AT THE TREATMENT CENTRE AT SALFORD DURING THE YEAR ENDED 31ST DECEMBER, 1931.

	Syphilis.		Soft Chancre.		Gonorrhœa.		Conditions others than Venereal.		Total.		
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Totals.
1. Number of cases on 1st January under treatment or observation	407	116	2	..	332	95	140	40	881	251	1,132
2. Number of cases removed from the register during any previous year which returned during the year under report for treatment or observation of the same infection	14	7	..	..	15	4	..	..	29	11	40
3. Number of cases dealt with for the first time during the year under report (exclusive of cases under Item 4) suffering from :—											
Syphilis, primary	100	14	..	..	..	..	..	..	100	14	114
,, secondary	28	22	..	..	..	..	..	..	28	22	50
,, latent in 1st year of infection	20	15	..	..	..	..	..	..	20	15	35
,, all later stages	96	52	..	..	..	..	..	..	96	52	148
,, congenital	27	18	..	..	..	..	..	..	27	18	45
Soft Chancre	..	..	2	..	..	..	..	..	2	..	2
Gonorrhœa, 1st year of infection	..	..	..	..	564	74	..	..	564	74	638
,, later	..	..	..	..	21	9	..	..	21	9	30
Conditions other than venereal	..	..	..	..	..	..	852	212	852	212	1,064
4. Number of cases dealt with for the first time during the year under report known to have received treatment at other Centres for the same infection	31	1	..	..	31	..	7	..	69	1	70
Totals of Items 1, 2, 3 and 4	723	245	4	..	963	182	999	252	2,689	679	3,368
5. Number of cases discharged after completion of treatment and final tests of cure (see Item 15)	29	4	3	..	245	50	759	222	1,036	276	1,312
6. Number of cases which ceased to attend before completion of treatment and were, on first attendance, suffering from :—											
Syphilis, primary	34	6	..	..	..	..	..	..	34	6	40
,, secondary	7	13	..	..	..	..	..	..	7	13	20
,, latent in 1st year of infection	3	9	..	..	..	..	..	..	3	9	12
,, all later stages	42	26	..	..	..	..	..	..	42	26	68
,, congenital	18	16	..	..	..	..	..	..	18	16	34
Soft Chancre	..	..	..	..	..	..	..	..	..	..	..
Gonorrhœa, 1st year of infection	..	..	..	..	90	22	..	..	90	22	112
,, later	..	..	..	..	2	7	..	..	2	7	9
7. Number of cases which ceased to attend after completion of treatment but before final tests of cure (see Item 15)	25	3	..	..	95	4	..	..	120	7	127
8. Number of cases transferred to other centres or to institutions, or to care of private practitioners	91	9	1	..	111	11	67	2	270	22	292
9. Number of cases remaining under treatment or observation on 31st December	474	159	..	..	420	88	173	28	1,067	275	1,342
Totals of Items 5, 6, 7, 8 and 9	723	245	4	..	963	182	999	252	2,689	679	3,368

(These totals should agree with those of Items 1, 2, 3 and 4.)

VENEREAL DISEASES—*Continued.*

	Syphilis.		Chancre.		Gonorrhœa.		Conditions other than Venereal.		Totals.		
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Totals.
10. Number of cases in the following stages of syphilis included in Item 6 which failed to complete one course of treatment:—											
Syphilis, primary	7	2	..	..	..	..	..	..	7	2	9
,, secondary	2	3	..	..	..	..	..	..	2	3	5
,, latent in 1st year of infection	1	7	..	..	..	..	..	..	1	7	8
,, all later stages	18	14	..	..	..	..	..	..	18	14	32
,, congenital	6	6	..	..	..	..	..	..	6	6	12
11. Number of attendances:—											
(*a*) for individual attention of the medical officers	15,852	6,167	6	..	11,629	2,402	3,607	1,043	31,094	9.612	40,706
(*b*) for intermediate treatment, e.g., irrigation, dressing	1,360	285	43	..	46,869	9,667	1,594	398	49,866	10,350	60,216
Total Attendances	17,212	6,452	49	..	58,498	12,069	5,201	1,441	80,960	19,962	100,922
12. In-patients:—											
(*a*) Total number of persons admitted for treatment during the year	28	17	..	..	26	16	24	2	78	35	123
(*b*) Aggregate number of "in-patient" days of treatment given	350	515	..	..	347	615	182	75	879	1,205	2,084

	Under 1 year.		1 and under 5 years.		5 and under 15 years.		15 years and over		Totals.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
13. Number of cases of congenital syphilis in Item 3 above classified according to age periods	2	3	1	2	15	7	9	6	27	18

VENEREAL DISEASES—*Continued.*

	Arsenobenzene Compounds.	Mercury.	Bismuth.
14. Chief preparations used in treatment of Syphilis:			
(*a*) Names of preparations	Stabilarsan, Sulfarsenol, Myosalvarsan.	..	Bivatol
(*b*) Total number of injections given (out-patients and in-patients)	6,986	..	12,189
(*c*) Number of injectons *included in* (*b*) given to patients who on first attendance at this Centre were suffering from primary and secondary syphilis	3,125	..	4,082
15. Are the tests recommended in Memo. V21 as amended by Memo. V21a followed in deciding as to the discharge of the patient after treatment and observation for syphilis and gonorrhœa?	No change from previous report.		
If not, in what way are they modified ?......	....		

	Microscopical.		Serum Tests.		
	for spirochetes.	for gonococci.	Wassermann.	Others for Syphilis.	for Gonorrhœa.
16. PATHOLOGICAL WORK:—					
(*a*) Number of specimens examined at and by the medical officer of the treatment centre	286	6,146	..	..	..
(*b*) Number of specimens from patients attending at the centre sent for examination to an approved laboratory	..	..	3,485	..	.

Appendix II.

STANDARD COURSES FOR THE TREATMENT OF SYPHILIS IN THE VENEREAL DISEASES TREATMENT CENTRE.

CITY OF SALFORD.

Chemotherapeutic Index of Ab.C. = 16. T.U. Value = 1·00.

Chemotherapeutic Index of Bivatol = 12. T.U. Value = 0·75.

Amount of Ab.C. given in each 7-day period reckons as 1·00 Therapeutic Units. Amount of Bivatol given in each 7-day period reckons as 0·75 Therapeutic Units. (In each case full optimum dosage is assumed. If only half-dose of Bivatol—0·08 grams.—is given in a week, this reckons as 0·37 T.U.).

$$\text{Efficiency Index (E.I.)} = \frac{\text{No. of T.Us. in Course} \times 100}{\text{Duration of Course in Weeks}}$$

EARLY SYPHILIS.

Course No. I.

First Degree Syphilis.

(Sero-Negative Primary). $\text{E.I} = \frac{24 \times 100}{26} = 92$

Treponema pallidum present.

Blood-Wassermann negative.

					Stab.	Total Bi-Metal.	T.U.
Stabilarsan	once weekly	for	6	weeks	3·45	—	6
Bivatol	twice	,,	4	,, ...	—	0·64	3
Stabilarsan	once	,,	6	,, ...	3·45	—	6
Bivatol	twice	,,	4	,, ...	—	0·64	3
Stabilarsan	once	,,	6	,, ...	3·45	—	6
Total			26	,, ...	10·35	1·28 grammes.	24

Blood-Wassermann test 7 days after last injection.

If *positive,* treat as Endosyphilis and give Course No. V.

If *negative,* discontinue treatment and apply test for Cure.

Criteria of Cure.—Give iodides for two weeks preceding each Wassermann test. A negative blood-Wassermann should be obtained every three months for one year after the cessation of treatment. Two years after the cessation of treatment, the blood and cerebro-spinal fluid (C.S.F.) must be negative after provocation.

If at any time during the observation period for cure, the blood becomes positive, treat as Endosyphilis and give Course No. V.

Course No. II.

SECOND DEGREE SYPHILIS.

(Sero-Positive Primary). E. I. $= \frac{31 \times 100}{34} = 91$

Treponema pallidum present.

Blood-Wassermann positive.

	Total.		
	Stab.	Bi-Metal.	T.U.
Stabilarsan once weekly for 8 weeks	4·65	—	8
Bivatol twice ,, 6 ,, ...	—	0·96	4·5
Stabilarsan once ,, 8 ,, ...	4·65	—	8
Bivatol twice ,, 6 ,, ...	—	0·96	4·5
Stabilarsan once ,, 6 ,, ...	3·45	—	6
Total ....34 ,, ...	12·75	1·92 grammes.	31

Blood and C.S.F. Wassermann tests seven days after last injection.

If blood-Wasserman is *positive*, treat as Endosyphilis and give Course No. V.

If C.S.F. is *positive*, treat as Neurosyphilis and give Course No. VII.

If both blood and C.S.F. are *negative*, discontinue treatment and apply tests for cure.

CRITERIA OF CURE.—As in Course No. 1.

Course No. III.

THIRD DEGREE SYPHILIS.

(Early Secondary). E. I. $= \frac{36 \times 100}{40} = 90$

Blood-Wassermann positive.

General Cutaneous eruption.

	Total.		
	Stab.	Bi-Metal.	T.U.
Stabilarsan once weekly for 8 weeks	4·65	—	8
Bivatol twice ,, 6 ,, ...	—	0·96	4·5
Stabilarsan once ,, 8 ,, ...	4·65	—	8
Bivatol twice ,, 6 ,, ...	—	0·96	4·5
Stabilarsan once ,, 8 ,, ...	4·65	—	8
Bivatol twice ,, 4 ,, ...	—	0·64	3
Total ....40 ,, ...	13·95	2·56 grammes.	36

A blood and C.S.F. Wasserman is done one week after the last injection. If the blood is *positive*, treat as Endosyphilis, and give course No. V. If it is *negative*, discontinue treatment.

If C.S.F. is *positive*, treat as Neurosyphilis and give Course No. VII. If *negative*, discontinue treatment.

CRITERIA OF CURE.—As before.

Course No. IV.
FOURTH DEGREE SYPHILIS.

(Late Secondary). E. I. $= \frac{43{\cdot}5 + 100}{48} = 90$

Blood-Wassermann positive.
Fading General cutaneous eruption.
C.S.F. Negative.

	Total.		
	Stab.	Bi-Metal.	T.U.
Stabilarsan once weekly for 10 weeks	5·85	—	10
Bivatol twice ,, 6 6	—	0·96	4·5
(Iodides for last 2 weeks)			
Stabilarsan once weekly for 10 ,, ...	5·85	—	10
Bivatol twice ,, 6 ,, ...	—	0·96	4·5
(Iodides for last 2 weeks)			
Stabilarsan once weekly for 10 ,, ...	5·85	—	10
Bivatol twice ,, 6 ,, ...	—	0·96	4·5
Total .... 48 ,, ...	17·55	2·88 grammes.	43·5

A blood and C.S.F. Wassermann is done one week after the last injection, If the blood is *positive,* and the C.S.F. *negative,* repeat the above course. If. however, the C.S.F. is *positive,* treat as Neurosyphilis and give Course No. VII.

If the blood and C.S.F. are both *negative,* discontinue treatment.

CRITERIA OF CURE.—As before.

LATE SYPHILIS.

Course No. V.
FIFTH DEGREE SYPHILIS.

(Endosyphilis). E. 1 $= \frac{50 \times 100}{56} = 89$

Uncured cases without symptoms except a positive blood-Wassermann ; C.S.F. negative (If C.S.F. is positive, treat as Neurosyphilis and give Course No. VII.).

	Total.		
	Stab.	Bi-Metal.	T.U.
Stabilarsan once weekly for 8 weeks	4·65	—	8
(Iodides for last 4 weeks)			
Bivatol twice ,, 8 ,, ...	—	1·28	6
Stabilarsan once ,, 8 ,, ...	4·65	—	8
Bivatol twice ,, 8 ,, ...	—	1·28	6
(Iodides for last 4 weeks)			
Stabilarsan once ,, 8 ,, ...	4·65	—	8
Bivatol twice ,, 8 ,, ...	—	1·28	6
Stabilarsan once ,, 8 ,, ...	4·65	—	8
Total ....56 ,, ...	18·60	3·84 grammes.	50

A blood and C.S.F. Wassermann is done one week after the last injection. If both are *negative,* cease the treatment. If C.S.F. is *positive,* treat as Neurosyphilis and give Course No. VII. If blood is *positive,* repeat Course No. V.

CRITERIA OF CURE.—As before.

Course No. VI.

SIXTH DEGREE SYPHILIS.

(Tertiary and Quaternary Syphilis). E. I = $\frac{64 \times 100}{72}$ = 88

Skin, bone and mucous membrane asymmetrical lesions; vascular and visceral involvement. Blood-Wassermann positive. C.S.F. negative (If C.S.F. is positive treat as Neurosyphilis and give Course No. VII.).

	Total.		
	Stab.	Bi-Metal.	T.U.
Stabilarsan once weekly for 8 weeks	4·65	—	8
(Iodides for last 4 weeks)			
Bismuth twice ,, 8 ,, ...	—	1·28	6
Stabilarsan once ,, 8 ,, ...	4·65	—	8
Bismuth twice ,, 8 ,, ...	—	1·28	6
(Iodides for last 4 weeks)			
Stabilarsan once ,, 8 ,, ...	4·65	—	8
Bismuth twice ,, 8 ,, ...	—	1·28	6
(Iodides for last 4 weeks)			
Stabilarsan once ,, 8 ,, ...	4·65	—	8
Bivatol twice ,, 8 ,, ...	—	1·28	6
(Iodides for last 4 weeks)			
Stabilarsan once ,, 8 ,, ...	4·65	—	8
Total ....72 ,, ...	23·25	5·12 grammes.	64

A blood and C.S.F. Wassermann is done one week after the last injection. If both are negative cease treatment. If C.S.F. is *positive*, treat as Neurosyphilis and give Course No. VII. If blood is *positive*, give Course No. V.

CRITERIA OF CURE.—As before.

Course No. VII.

SEVENTH DEGREE SYPHILIS.

(Neurosyphilis).

Tubes dorsalis; General Paralysis; Cerebo-spinal Syphilis; C.S.F. positive; Colloidal gold test positive; Cell count increased.

Bivatol twice weekly for 8 weeks
Tryparsamide ord
Myosalvarsan once ,, 8 ,,
(*Lumbar drainage after last injection*)
Iodides .... for 4 weeks

[Dosage varies with Clinical condition.]

Repeat the above Course till the cerebro-spinal fluid becomes serologically and cytologically normal.

A patient with Neurosyphilis must continue with treatment at frequent intervals for the remainder of life, no matter how long the cerebro-spinal fluid has been *negative*.

Where possible all cases of Neurosyphilis should be treated with Malaria inoculations.

Course No. VIII.

EIGHTH DEGREE SYPHILIS.

(Congenital syphilis).

1st year *Under five years of age.*

Bismuth inunctions dlily	for	1	month	
Myosalvarsan	intramuscularly for	2	months	Dosage varies with age of patient.
Bivatol	,,	3	,,	
Myosalvarsan	,,	3	,,	
Bivatol	,,	2	,,	
Iodides	,,	1	,,	
Total		12	,,	

For each of the succeeding four years, give two courses of treatment, each extending over a period of four months.

Bivatol	intramuscularly for	1	month	Dosage varies with age of patient.
Myosalvarsan	,,	1	,,	
Bivatol	,,	1	,,	
Myosalvarsan	,,	1	,,	
Total		4		

If at the end of five years Wassermann is *negative* treatment is discontinued. If *positive*, give Course No. V.

Over five years of age.—Give Course No. V.

SECTION IV.

Report Relating to the Veterinary Inspector's Department.

DISEASES OF ANIMALS ACTS, 1894-1927.

Cattle Market.

The weekly Market was held until the 30th April, on which date it was closed by Order of the Minister of Agriculture and Fisheries. The reason this Order was made was that the Market did not comply with Section 1 (1) of the Markets, Sales and Lairs Order of 1925, in that it was not paved in such a manner that it was impervious to water and could not be effectually cleaned.

At each Market that was held animals exposed for sale were inspected, and with the exception of those animals dealt with under Article 12 of the Tuberculosis Order, 1925, no animal was found affected with any scheduled disease.

The cleaning of the Market, the disinfection of motor vehicles used in transporting live animals, and the segregation of imported animals from other cattle, were under constant supervision.

The following Table shows the number of animals exposed for sale during the period 1st January to 30th April, 1931.

Irish Fat and Store Cattle	7,737
Irish Dairy Cattle	1,059
Other Fat and Store Cattle	9,862
	18,658
Irish Sheep	409
Other Sheep	92,849
	93,849

Cattle Lairs. There were six privately owned Cattle Lairs authorised to receive cattle prior to exposure for sale in the Market. These were in addition to the lairs adjacent to the Market and owned by the Corporation. The ground surface was required to be maintained in such a condition that it was impervious to water, and the lairs had to be cleansed and disinfected after each occasion on which they were used.

They were visited regularly and were generally found to be conducted in a satisfactory manner.

When the Market finally closed the lairs owned by the Corporation ceased to be used, but the privately owned ones were used for the temporary detention of animals consigned to slaughterhouses in outside districts. Three new lairs were also opened for this purpose.

Importation of Animals Act, 1922.

ANIMALS (LANDING FROM IRELAND, CHANNEL ISLANDS AND ISLE OF MAN) ORDER, 1923.

It is mostly Irish animals, on licence from the ports of landing, that are received at the lairs. They must remain for a period of at least six days, unless they are moved within that period to a slaughter-house, in which case the movement must be authorised by a licence granted by this Authority.

During the year 2,563 licences were given, authorising the movement of 17,805 cattle and 19,924 sheep.

In one instance proceedings were taken for a contravention of the provisions of Article 30 of the Animals (Landing from Ireland, Channel Islands, and Isle of Man) Order, 1923. A firm of Meat Salesmen had 60 cattle and 403 sheep licensed to their premises in Salford from the port of landing. The premises were visited before the six days' detention period had elapsed, and it was found that the whole of the sheep and 51 of the cattle had been moved, no licence having been issued authorising their movement. The firm was convicted of the offence and a penalty of £20 imposed.

Foot and Mouth Disease Order of 1928.

The permanent cattle population in the City is small, but Salford is a distributing centre for many Lancashire towns, and each week a large number of cattle and sheep pass through on their way to outside districts, many of which remain a few days in one or other of the lairs. They are mostly animals from Ireland, but there are also cattle from almost every part of England and Wales, consequently there is always the risk of disease being introduced.

On the 16th June, foot and mouth disease was confirmed in Irish cattle and sheep in several parts of Northern England and Scotland.

The affected animals had recently been imported from Ireland, and there were cattle and sheep in Salford at that time which had been in contact with the affected animals at the ports of landing. There were 57 cattle and 154 sheep on five separate premises.

On receiving notice of the outbreak these animals were segregated and kept under daily observation until they had all been slaughtered. None of them showed any signs of the disease.

On June 19th the Great Britain (Foot and Mouth Disease) Regulation of Movement Order of 1931 came into operation. This Order prohibited the movement of all cattle, sheep, and swine in Great Britain except by licence, and then only for necessary purposes. The Order remained in operation about a fortnight and was then revoked.

The last case of foot and mouth disease in Salford was in 1926, nevertheless precautionary measures are constantly being taken in order to prevent the introduction of the disease and, in the event of a case occurring, to ensure early detection. This consists of periodical inspection of all cattle, sheep and pigs in the City, the disinfection of the cattle lairs and motor vehicles used in the transit of live animals, and the enforcing of the Foot and Mouth Disease (Boiling of Animals Foodstuffs) Order, 1928. This Order makes provision for the boiling of all swill or animal offal before it is brought into contact with or fed to cattle, sheep, pigs or goats.

The City piggeries are regularly visited to ensure that this Order is complied with.

Anthrax Order of 1928.

All unexplained deaths in cattle are regarded as being suspected anthrax, and no such carcase is permitted to be moved until it has been examined. It frequently occurs, however, that the person in charge of such an animal makes an attempt to bleed the carcase. The danger of this procedure in the event of its proving to be anthrax, and the futility of attempting to save such a carcase for food, is always pointed out to the owner.

Reports were received of seven suspected cases during the year but on investigation they all proved to be negative. They were all cases of sudden or unexplained deaths in the lairs or in railway waggons during transit.

Parasitic Mange Order of 1911.

One report was received of suspected parasitic mange, but on investigation it was found to be negative.

Swine Fever Order of 1908.

Swine fever continued to be prevalent in certain counties, and as a considerable amount of pig killing is done in Salford, and the pigs are drawn from a wide area, as might be expected, swine fever was fairly frequently found in the carcases of pigs in the slaughter-houses.

During the year eight cases were confirmed in one of the slaughter-houses, and one outbreak was confirmed in live pigs on premises in the City.

The slaughter-house cases necessitated the destruction of fifty-eight carcases, which was done by burning at the Corporation destructor, under the supervision of an Inspector. Some of the cases found in the slaughter-house were in pigs on licence from infected premises, and others were from premises where the disease had not been previously notified. In every case the Minister of Agriculture and Fisheries and the local authority of the place of origin were notified, and the conditions of the Order were observed.

Tuberculosis Order of 1925.

With tho exception of thoso cattle coming within Article 12 of the Order (cattle exposed for sale in the Market, suspected of being affected with tuberculosis within the meaning of the Order), no other animals were dealt with.

Importation of Dogs and Cats Order of 1928.

Notices were received from the Customs Officers that thirty-nine ships were in dock with dogs aboard. The ships were visited in order to ascertain that the dogs were being controlled in accordance with the requirements of the Order.

Railway Pens and Cattle Trucks.

There are two cattle stations in Salford which are the principal stations for the Manchester Abattoir, and they are also depots for cleaning waggons from outside districts.

The stations were visited regularly, and the cleansing and disinfection of the cattle trucks and pens has been carried out in a satisfactory manner.

There were 29,280 cattle trucks cleansed and disinfected during the year.

The number of cattle received and forwarded out of the City was as follows :—

CATTLE RECEIVED INTO THE CITY.

Cattle.	Sheep.	Pigs.	Calves.	Horses.
58,780	240,777	1,994	416	41

FORWARDED OUT OF THE CITY.

Cattle.	Sheep.	Pigs.	Calves.	Horses.
9,919	36,647	166	39	—

THE MILK SUPPLY.

The control and supervision of the milk supply can be conveniently described under the following headings :—

1. Inspection of dairies.
2. Supervision of the Milk (Special Designations) Order, 1923.
3. The taking of samples for examination for tuberculosis and bacterial content.
4. Tracing the origin of tuberculous samples.
5. Inspection and supervision of farms supplying local Institutions with milk.

Inspection of Dairies.

There are 716 persons registered as Retail Purveyors of Milk, which is an increase of 23 over last year's total. This does not mean that there are more persons selling milk, but is accounted for by the fact that several unregistered milk retailers have been found selling bottled milk, who were of the opinion that it was not necessary to be registered for this purpose. Such persons have now been registered. Any person selling milk, whether in bottles or loose, requires to be registered as a Retail Purveyor of Milk, but in the case of bottled milk only the premises are not registered as a dairy.

Of the registered milk retailers fifty may be regarded as true dairies, in the sense that only milk and dairy produce are sold. Two hundred and ninety-two sell milk in conjunction with other goods, and three hundred and seventy-four sell bottled milk only. This is an increase of fifty-two bottled milk shops over last year. It is hoped that eventually all the shops of the mixed business type will sell only bottled milk, but the change over must necessarily be slow, as each case has to be considered on its merits, and the affected person must be given the opportunity of appearing before the Health Committee to show cause why he should not be removed from the Register. All such persons on being removed from the Register are immediately re-registered for the sale of bottled milk only.

Since the Committee decided to stop the sale of loose milk in these shops, advantage has been taken of Section 2 of the Milk and Dairies (Amendment) Act, 1922, in dealing with persons who would not voluntarily comply with the Committee's recommendations.

Forty-five persons have appeared before the Health Committee to show cause why they should not be removed from the Register, and after hearing their statements and the report of the Medical Officer of Health, twenty-six were removed from the Register, fourteen carried out the necessary alterations, and five were deferred for further consideration.

In inspecting dairies proper, special attention is given to the storage accommodation, cleanliness of premises and utensils used in connection with the milk, and the method of cleansing bottles. With regard to the cleansing of bottles this is regarded as most important owing to the condition of some of the returned empty bottles, otherwise the benefits derived from this method of distribution would be nullified, and instead of being advantageous would be decidedly disadvantageous. In view of this, only dairies with approved bottle-washing outfits are allowed to fill bottles.

Milk Supply to the Institutions.

Three different grades of milk are supplied to the Hospitals and Special Schools, viz., " Pasteurised," Grade " A," and milk equal to Grade " A " in quality but not produced under licence. This latter grade is considered necessary for the Special Schools as the supply is intermittent.

The farms supplying the milk are under the supervision of the Corporation Veterinary Inspector, and are frequently visited to ensure that the premises and cattle are kept clean, and that the milk is produced under clean conditions. The two farms supplying the Grade " A " milk are particularly good ones, and the conditions on these farms are excellent.

The cattle are young, good class dairy shorthorns, housed in clean hygienic buildings, are well fed and kept in a clean condition. On one farm twelve Jersey cattle have recently been added to the herd in order to improve the quality of the milk. When these cattle were first introduced, a sample of milk was taken from each cow and submitted to the City Analyst for examination. All the samples contained over 5 per cent butter fat, and it is very interesting to note that one cow gave 9·6 per cent butter fat. These were genuine samples taken by the Veterinary Inspector on a surprise visit to the farm at the time of milking.

The cattle on the farms are frequently examined, particular attention being paid to the detection of diseases of the udder, and by arrangement with the farmers all new cows are examined before their milk is used. The extra time taken up by this latter examination is justified by the fact that on two occasions cows which were bought in good faith, were found on examination, to have tuberculosis of the udder. These animals were immediately isolated, and subsequently slaughtered by the local authority. In addition to the inspection of the farms the milk is frequently sampled as it is delivered at the Institutions. These samples are submitted to the City Bacteriologist for examination for bacterial content. On one farm twenty samples were taken, and the average count was 8,980 organisms per c.c., and in two samples coliform organisms were present in 1/10 of a c.c. From the other Grade " A " farm thirteen samples were taken and the average count, excluding one sample which was uncountable, and which was afterwards ascertained to be due to a careless act by one of the milkers, was 13,830, and in one sample only were coliform organisms present in 1/10 of a c.c.

The maximum number of organisms permitted in a sample of Grade " A " milk is 200,000 organisms per c.c. and no coliform organisms in 1/100 of a c.c. It will be seen that those farms have kept well within the limits allowed, and furthermore their consistency is significant of the high standard of cleanliness which is maintained.

The "Pasteurised" milk was supplied by two Manchester firms equipped with modern Pasteurising plants. Twenty-two samples were taken, and the average count was 42,168 organisms per c.c., and in ten samples coliform organisms were present in 1/10 of a c.c. The maximum number of organisms allowed for this class of milk is 100,000 per c.c. There is no standard for coliform organisms, but the large percentage of samples of "Pasteurised" milk which contain coliform organisms in a dilution of 1/10 of a c.c. is remarkable.

Milk (Special Designations) Order, 1923.

The following licences were issued during the year :—

13 Dealer's Licences to sell milk as "Certified."
1 Supplementary Licence to sell milk as "Certified."
1 Dealer's Licence to sell milk as Grade "A" (Tuberculin Tested).
1 Supplementary Licence to sell milk as Grade "A" (Tuberculin Tested).
16 Dealer's Licences to sell milk as "Pasteurised."
2 Supplementary Licences to sell milk as "Pasteurised."

There is a slight increase in the number of licences issued, but the total amount of this class of milk which is sold, other than "Pasteurised," is practically negligible. Approximately 80 per cent of the milk sold is treated by heat, but it is only a small proportion of the milk that is Pasteurised in the manner recommended by the Minister of Health. If the milk is not sold as "Pasteurised" the local authority has no control over the method of treatment or the apparatus used.

BACTERIOLOGICAL EXAMINATION OF MILK SAMPLES.

Tuberculous Milk.

One hundred and thirty-nine samples of milk were examined for bacterial content and four hundred and forty-two for tuberculosis. The samples examined for bacterial content were made up as follows :—

"Certified" milk	4	samples
Grade "A" milk	36	,,
"Pasteurised" milk	39	,,
Special Contract milk	35	,,
Farm milk	25	,,
	139	

The four hundred and forty-two samples examined for tuberculosis comprised four hundred and twenty-two from farm supplies, fifteen samples of "Pasteurised" milk, four samples of "Certified" milk, and one sample of Grade "A" (Tuberculin Tested) milk.

Each sample from farm supplies represented a mixed milk from all the milking cows on one farm, and of the four hundred and twenty-two examined, thirty, or 7·2 per cent, were positive. This is a slightly higher percentage than last year, but is about the average of previous years.

The counties of Cheshire and Lancashire are the chief sources of supply and as has been invariably the case in the past, Cheshire has a higher percentage positive than Lancashire, having 8·8 per cent compared with 4·6 per cent from Lancashire.

The total number of samples taken is less than last year, the reason being that in July last it was decided to inoculate two guinea pigs, and examine one at three weeks and one at six weeks. Previously all guinea pigs were examined at three weeks only. This change in method has so far been justified by the results obtained, and it is being continued. One hundred and ninety samples have been examined by this method, and five of these were positive at six weeks, although they had been negative at three weeks.

Whenever a positive sample was found the local authority where the milk was produced was notified, and the cattle on the farm examined. Owing to the time which must elapse between taking the sample and making the examination of the herd it frequently happens that there has been some movement of cattle off the farm, thus increasing the difficulty of tracing affected animals.

In the year under review however, the results have been very satisfactory, and in a high percentage of cases the affected cow was found, and subsequently slaughtered under the Tuberculosis Order, 1925.

The examination of the milking herd on thirty farms resulted in one cow being found giving tuberculous milk on sixteen farms, two cows on two farms, three cows on two farms, and four cows on two farms, a total of thirty-four cows. On eight farms no affected animal was found at the time of the inspection, but in five of these, cows affected with advanced tuberculosis had been killed since the original sample was taken, so that it is reasonable to assume that these animals were the cause of the trouble. This leaves only three cases where the cow was not accounted for. A control sample from all the cows in the herds was always taken after the suspected cows had been sampled separately.

PARTICULARS OF MILK SAMPLES EXAMINED FOR TUBERCULOSIS.

	No. taken.	Positive.	Farms where one cow was found affected at the time of the examination of the herd.	Farms where one or more cows were found affected at the time of the examination of the herd.	Farms where no cows were found affected.	Total number of cows found affected.
Samples from farm supplies	422	30	16	6	8	34
"Pasteurised"	15	—	—	—	—	—
Special samples	5	—	—	—	—	—

TABLE SHOWING NUMBER OF SAMPLES OF MILK OBTAINED FROM VARIOUS COUNTIES, AND THE NUMBER OF PERCENTAGE FOUND TO BE TUBERCULOUS, FOR THE YEARS 1923-1931.

	Year 1923.			Year 1924.			Year 1925.			Year 1926.			Year 1927.			Year 1928.			Year 1929.			Year 1930.			Year 1931.		
	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.	Total number of samples examined.	Number positive.	Percentage positive.
Cheshire	123	17	13·8	126	14	11·1	203	22	10·8	157	14	8·9	178	20	11·2	220	23	10·4	240	26	10·8	253	21	8·3	225	20	8·8
Lancashire ..	94	5	5·3	76	6	8·0	90	4	4·4	152	7	4·6	124	6	4·8	135	7	5·1	148	14	9·4	156	7	4·4	151	7	4·6
Yorkshire ...	21	1	4·7	14	..	..	16	1	6·2	17	1	6·0	41	4	9·7	58	4	6·9	48	1	2·0	41	1	2·4	40	2	5·0
Staffordshire.	7	..	..	7	1	14·3	2	..	..	1	..	..	8	1	12·5	15	2	13·6	8	2	25·0	7	..	..	5	1	20·0
Derbyshire ..	31	..	..	39	2	5·0	14	2	14·3	..	..	..	9	..	..	15	1	6·3	9	1	11·1	1	..	..	1	..	..
Shropshire ..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..
Westmorland	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cumberland .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	1	14·2	..	..	..
Somerset....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wales	1	1	100·0	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Scotland	1	..	..	2	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mixed	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	12	2	16·6	9	1	11·1	12	1	8·5	..	..	..
Pasteurised..	..	..	..	..	..	..	..	..	..	..	..	..	11	..	..	9	..	..	1	0	0	53	..	..	15	..	..
Special	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	..	..
Total for year	278	24	8·63	265	23	8·7	331	29	8·75	329	22	6·68	371	31	8·3	466	39	8·3	463	45	9·71	530	31	5·8	442	30	6·78

Inspection of Meat.

TABLE OF MONTHLY SEIZURES OF DISEASED AND UNSOUND FOOD DISCOVERED DURING ROUTINE INSPECTION, AND OF UNSOUND FOOD SURRENDERED BY THE OWNER THEREOF DURING 1931.

Month.	No. of seizures.	Beef lbs.	Mutton lbs.	Pork lbs.	Veal lbs.	Miscel. lbs.	Total
January	119	5,400	490	2,128	—	—	8,018
February	87	2,156	630	1,214	—	—	4,000
March	82	2,928	560	2,494	—	—	5,982
April	90	1,819	403	2,278	50	—	4,550
May	386	178	4	18,256	—	—	18,438
June	35	560	—	926	—	—	1,486
July	33	—	—	1,486	—	—	1,486
August	99	548	—	5,344	—	—	5,892
September	80	156	—	2,848	50	—	3,054
October	148	242	42	2,264	—	—	2,548
November	177	1,587	12	5,199	—	—	6,798
December	303	2,242	66	3,502	—	60	5,870
	1,639	17,816	2,207	47,939	100	60	68,122

Unsound Food.

The following table shows the amount and class of unsound food destroyed during the year. All unsound food is destroyed by burning, either on the premises or at the Corporation Destructor.

	Tons.	cwts.	qrs.	lbs.
Pork	21	8	0	3
Beef	7	19	0	26
Mutton	—	19	2	5
Fowl	—	—	2	4
Veal	—	—	3	16
	30	8	0	26

TABLE SHOWING THE AMOUNT OF FOOD CONDEMNED FROM VARIOUS CAUSES DURING 1931.

No. of seizures.	Cause of seizure.	Weight in lbs.
555	Tuberculosis	24,279
375	Parasitic	2,428
323	Congestion	10,330
64	Cirrhosis	430
58	Swine Fever	10,214
54	Injury	2,894
43	Pneumonia	1,600
29	Pleurisy	440
25	Decomposition	2,025
21	Abscess	516
15	Septicaemia	2,570
12	Peritonitis	980
8	Erysipelas	1,280
9	Emaciation	1,610
7	Jaundice	1,020
6	Cavernous Angioma	72
6	Fatty Degeneration	40
5	Moribund	1,770
5	Dropsy	800
3	Nephritis	430
3	Johnes Disease	340
3	Neoplasms	512
3	Pyæmia	1,220
2	Necrosis	24
1	Enteritis	160
1	Mastitis	40
1	Immature	50
1	Actinomycosis	30
1	Unclassified	18
1,639		68,122

Of the total weight of meat seized, 10 tons 16 cwts. 3 qrs. 3 lbs., or 35·6 per cent, was seized on account of tuberculosis.

TABLE SHOWING THE NUMBER OF CARCASES OF PIGS INSPECTED, THE NUMBER FOUND TO BE AFFECTED WITH TUBERCULOSIS, AND THE PERCENTAGE SO AFFECTED DURING THE YEARS 1921–1931.

Year.	Number Inspected.	Diseased.	Percentage diseased.
1921	11,111	512	4·6
1922	14,809	824	5·5
1923	13,015	606	4·6
1924	18,742	931	4·9
1925	15,684	697	4·4
1926	13,672	424	3·1
1927	12,702	512	4·03
1928	16,992	757	4·4
1929	14,110	606	4·22
1930	12,473	469	3·7
1931	12,549	497	3·95

Slaughterhouses.

One new private slaughterhouse was licensed during the year, so that there are now one public and six private slaughterhouses in the City.

Four of the private slaughterhouses are used for the killing of pigs only. Part of the public slaughterhouse is let to a private butcher, part to a horse slaughterer, and part is used for casual slaughtering.

The slaughterhouses have been visited whenever slaughtering has taken place, 2,384 visits having been made.

NUMBER OF CARCASES INSPECTED AND DISEASED.

	Number Inspected.	Number Diseased.
Cattle	1,748	122
Sheep	9,035	86
Calves	17	2
Pigs	12,549	1,343
	23,349	1,553

Retail Meat Shops and Food Preparing Premises.

The retail meat shops and food preparing premises have been visited regularly, special attention being given to premises where meat products are made. The general sanitary conditions and the cleanliness of the premises and utensils used in the preparation of food are observed. In retail meat shops the method of labelling imported meat is noted, and it has frequently been necessary to warn the occupiers for non-compliance with the conditions of the Sale of Food Order, 1921, with regard to the labelling of imported meat.

The meat exposed for sale and the premises are inspected, and on occasions small quantities of unsound meat have been found, but when circumstances did not warrant a prosecution the occupier was allowed to surrender the meat for destruction.

On two occasions diseased meat was seized and a Magistrate's Order obtained for its destruction, and proceedings taken against the occupiers of the premises.

In one case the carcase and offal of a calf affected with tuberculosis and 115 lbs. of unsound meat were found in a shop. The calf had been killed in the country, no notice having been given to the local authority of the intended slaughter. It was brought to Salford without having been inspected, and the butcher on receiving the carcase did not report it to this Authority, but hung it in the shop.

Proceedings were taken against the occupier of the shop for exposing unsound meat for sale, and a fine of £10 was imposed.

In another case a quantity of meat affected with a large abscess was found. The manager stated that he had received instructions from the occupier of the shop to trim the meat and sell it.

The occupier was charged with depositing unsound meat for the purpose of sale and was fined £20 and ordered to pay 18s. costs.

Offensive Trades.

The following is a list of offensive trades registered in the City. There have been no complaints arising from these trades.

NATURE OF TRADES.

Tripe Dressing	4
Soap Works	3
Tanneries	1
Skin Dressers	1
Gut Scrapers	3
Total	12

SECTION V.

Pathological Laboratory Report.

The appended table shows a list of the examinations carried out at the Municipal Laboratory and at Hope Hospital Laboratory during the year 1931. Apart from an increase of over 50 per cent in the number of examinations made for the Hospital, it presents no striking change from last year. The only comment I have to make on the tabulated list opposite is that over 95 per cent of these examinations are made at the request of medical men from other departments, the veterinary department, and outside doctors who require help in order to diagnose and treat the cases under their care.

I may venture to add a few words on the progress of pathology in medicine and Public Health, and on how the growing demands on the services of the Laboratory are to be met. The fact that the work of the Department is steadily increasing shows its growing importance in preventive and therapeutic medicine. This increasing demand for the investigation of disease from the Laboratory standpoint is partly due to advances made in the sciences of Pathology and Bacteriology, and partly due to a fuller appreciation by other branches of medicine of the help they can obtain in this way. In clinical pathology alone this increase has been enormous. Twenty years ago the average teaching hospital of 500 beds was lucky if it had a small clinical pathological laboratory, staffed by a whole-time pathologist and one laboratory assistant. A similar hospital will nowadays have a complete Pathological Department staffed by a pathologist, two assistant pathologists, a laboratory steward, and three or four laboratory assistants, all of whom are, or should be, fully occupied in dealing with the work sent to them by the medical staff in charge of the institution.

The pathologist is continually faced with the problem of coping with the increasing demands made on his services, and at the same time keeping his expenses within reasonable limits. Extra work eventually means extra staff, extra accommodation and equipment. He should be able to appraise the value of all the investigations carried out in his department, and it is his duty, in the interests of economy, to discourage such examinations as he thinks ar. not really necessary or do not yield sufficient information to justify the time and money expended on them.

In many of our teaching hospitals a considerable amount of time is spent in investigating problems which are mainly of academic interest, but, for the present at any rate, in our Municipal Hospitals and Services attention should be confined to those investigations which have a direct bearing on diagnosis and treatment.

By far the greater proportion of the expenses of a Pathological Department is taken up by the salaries of the personnel employed. As much of the work can be done by well-trained conscientious technical assistants, it is advisable to have as much of it as possible done by a number of these under the supervision of a minimal staff of qualified pathologists.

A large proportion of the investigations carried out in clinical pathology, such as blood counts, examination of fractional test meals, estimation of blood sugar or blood urea, are time consuming. A single complete blood count requires about one and a half hours, even when done by one who is skilled in the technique. Most of the chemical examinations made on blood take upwards of an hour to do, and some tests, such as a sugar tolerance curve, require half a day. If all this work was done by a qualified medical staff the increase in expense would be enormous.

It is, however, advisable, as far as possible, to have all examinations supervised by a qualified pathologist, who should also keep pace with new developments, and who can correlate the pathological report with the clinical findings. In order to do this satisfactorily the pathologist must not only be familiar with all three branches of clinical pathology, he must also be conversant with the different branches of medicine, surgery, etc., from which he receives patients, or material from patients, for examination and report.

A very important member of the staff is the laboratory steward, who holds a much more responsible post than any of the technical assistants, as, in addition to doing many of the more skilled routine investigations which the pathologist delegates to him, he has also under his charge the preparation of most of the reagents, media, apparatus, etc., used in connection with the work. He must be skilled in chemical, pathological and bacteriological laboratory methods, as it is part of his job to direct and train the assistants working under him, so that in time they may be competent to take on a post similar to his own.

In conclusion, I wish to state that a modern clinical pathological laboratory, if it is to cope satisfactorily with a large number of essential investigations such as we are expected to make, can only be efficiently and economically run by organising the work so that many of the less important examinations, or those requiring less skill and knowledge, are carried out by the laboratory assistants under the supervision of the laboratory steward and qualified staff. It is only in this way that the pathologist can hope to find time to devote to cases or problems that need special investigation, and to keep his laboratory up to date by the introduction of new methods, such as are continually being published.

PARTICULARS OF INVESTIGATIONS CARRIED OUT IN THE PATHOLOGICAL LABORATORY DURING THE YEAR 1931.

Nature of Investigations.	Ladywell Sanatorium.	Hope Hospital.	Veterinary Department.	Tuberculosis Department.	Venereal Diseases Department.	School Medical Department.	Maternity and Child Welfare Department.	General Practitioners.	Salford Royal Hospital.	Totals.
Swabs for Diphtheria	6740	826	..	..	..	209	49	1941	..	9765
Virulence Test of Organisms	25	7	..	..	..	..	..	..	..	32
Vaccines	11	7	..	1	..	..	1	..	..	20
Sputa	458	1101	..	802	..	..	..	676	..	3037
Milk Inoculations	..	..	458	..	..	..	..	..	..	458
Milk Counts	..	..	150	..	..	..	..	..	..	150
Milk Microscopic for Tubercle	..	..	55	..	..	..	..	..	..	55
Widal	9	11	..	..	..	..	..	6	..	26
Swimming Bath Water	..	..	..	..	..	12	..	..	..	12
Bacteriological and Cytological Examinations of Urine	4	576	..	4	..	..	1	9	..	594
Fæces	6	13	..	..	..	..	..	4	..	23
Hair Ringworm	..	..	..	..	..	11	..	..	..	11
Blood-Anthrax	..	..	9	..	..	..	..	..	..	9
Wassermann	4	663	..	1	3501	2	29	247	463	4910
Blood Cultures	..	51	..	..	..	..	..	..	..	51
Gonococci	..	..	..	..	..	..	15	25	..	40
Diagnosis Inoculations	..	29	..	3	2	..	..	..	2	36
Blood Films—Differential Count and Hæmoglobin Estimation	..	49	..	..	..	..	..	..	..	49
Complete Blood Counts	..	184	..	..	..	..	..	..	..	184
Examination for Occult Blood	..	136	..	..	..	..	..	..	..	136
Autopsies	..	30	..	..	..	..	..	..	..	30
C.S.F.	..	65	..	..	..	..	..	..	..	65
Histological Sections	..	206	..	..	2	..	..	1	..	209
Test Meals	..	219	..	..	..	..	..	..	..	219
Pus, Pleural Fluid, Exudates, etc.	..	390	..	..	..	..	..	..	..	390
Blood Urea Estimation	..	115	..	..	..	..	..	..	..	115
Urea Concentration Tests	..	165	..	..	..	..	..	..	..	165
Blood Sugar	..	278	..	..	..	..	..	..	..	278
Disinfectants	..	..	..	..	..	21	..	..	..	21
Swabs for Hæmolytic Streptococci	..	54	..	..	..	..	..	..	..	54
Sputa for typing	..	19	..	..	..	..	..	..	..	19
Blood typing	..	25	..	..	..	..	..	..	..	25
Van Den Bergh	..	13	..	..	..	..	..	..	..	13
Leucocyte Counts	..	49	..	..	..	..	..	..	..	49
Reticulocyte Counts	..	4	..	..	..	..	..	..	..	4
Fragility Test	..	2	..	..	..	..	..	..	..	2
Various	..	15	..	..	..	..	..	6	..	21
	7257	5302	672	811	3505	255	95	2915	465	21277

SECTION VI.

Report relating to the City Analyst's Department.

During the year 1931 two thousand eight hundred and eighty-nine samples have been examined, of which 1,445 were taken under the Food and Drugs (Adulteration) Act, and of these 47, or 3·3 per cent, were certified as adulterated. Twelve samples were analysed under the Fertilisers and Feeding Stuffs Act, 2 under the Rag Flock Act, and the remaining 1,430 were of a miscellaneous character, being received from the City Police, various Corporation Departments, or in connection with investigations carried out during the year.

TABLE 1.

Samples.	Number Examined.	Number Adulterated.		Percentage of Adulteration.
		Preservatives Only.	Other Ways.	
Milk	1,003	—	21	2·1
Separated Milk	1	—	—	—
Malted Milk	2	—	—	—
Cream	3	—	—	—
Cream (Tinned)	8	—	—	—
Ice Cream	2	—	—	—
Butter	15	—	—	—
Cheese	19	—	—	—
Margarine	9	—	1	11·1
Lard	13	—	—	—
Condensed Milk	5	—	—	—
Tea	9	—	—	—
Sugar	4	—	—	—
Cocoa	9	—	—	—
Coffee	4	—	—	—
Coffee and Chicory	8	—	—	—
Coffee and Chicory Essence	3	—	—	—
Bread	10	—	—	—
Bun Flour	1	—	—	—
Flour	6	—	—	—
Cornflour	2	—	—	—
Egg Substitute	1	—	—	—
Baking Powder	3	—	—	—
Custard Powder	12	—	3	25·0
Blanc Mange Powder	2	—	—	—
Jam	21	—	4	19·0
Jelly	5	—	—	—
Honey	8	—	—	—
Candied Peel	6	2	—	33·3
Raisins	6	—	—	—
Dried Apricots	4	—	—	—
Mixed Dried Fruit	3	—	—	—
Prunes	4	—	—	—
Toffees and Sweets	11	—	—	—
Chocolate	8	—	—	—
Pig's Tripe	1	—	—	—
Sausage	9	—	—	—
Beef Suet	6	—	—	—
Ground Mace	3	—	—	—
Ground Cinnamon	3	—	—	—
Ground Ginger	6	—	—	—
Ground Rice	4	—	—	—
Rice	4	—	—	—
Arrowroot	5	—	—	—
Pepper	16	—	—	—
Mustard	1	—	—	—
Caraway Seeds	6	—	—	—
Chicken Fat	2	—	—	—

TABLE I.—*Continued.*

Samples.	Number Examined.	Number Adulterated.		Percentage of Adulteration.
		Preservatives Only.	Other Ways.	
Fruit Cordials	10	—	—	—
Treacle	5	—	—	—
Ground Almonds	9	—	—	—
Rochelle Salts	5	—	—	—
Epsom Salts	11	—	—	—
Borax	7	—	—	—
Potassium Carbonate	5	—	—	—
Potassium Iodide	3	—	—	—
Turpentine	16	—	8	50·0
Turpentine Substitute	1	—	—	—
Cream of Tartar	5	—	3	60·0
Tartaric Acid	7	—	—	—
Seidlitz Powder	4	—	—	—
Tincture of Iodine	1	—	—	—
Ammoniated Tincture of Quinine	5	—	—	—
Friar's Balsam	4	—	—	—
Paregoric	3	—	—	—
Zinc Ointment	11	—	—	—
Boracic Ointment	1	—	—	—
White Precipitate Ointment	3	—	—	—
Liniment of Turpentine	5	—	1	20·0
Bismuth Tablets	6	—	2	33·3
Gregory Powder	5	—	—	—
Castor Oil	1	—	—	—
Whisky	7	—	2	28·6
Rum	3	—	—	—
Brandy	4	—	—	—
Pectin	1	—	—	—
Paraffin Oil	1	—	—	—
	1,445	2	45	3·3

Table 1 gives details of the samples examined under the Food and Drugs Act. The total number of samples represents a purchase of 642 samples per hundred thousand of the population. It will be seen that 47 have been returned as adulterated, a percentage of 3·3 of the total. Comparative figures for adulteration in previous years are given in Table 2.

TABLE 2.

COMPARATIVE PERCENTAGES OF ADULTERATION.

	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
Percentage of Adulteration	5·6	6·9	4·3	7·7	4·5	4·3	4·7	3·0	3·2	3·3
Total Samples .	1452	1388	1544	1396	1387	1452	1484	1491	1556	1445
Formal Samples	653	644	775	752	765	744	733	727	598	574
Informal ,,	799	744	769	644	622	738	751	764	958	871
No. of Samples per 100,000 persons	607	577	641	572	563	593	593	596	622	642

It will be noticed that in the previous Table the samples are divided into two parts, named respectively " formal " and " informal " samples. " Formal " samples are those taken in accordance with Section 18 (1) of the Food and Drugs (Adulteration) Act, 1928. This Section enacts that, " The person purchasing a sample of any article with the intention of submitting it to analysis shall, after the purchase has been completed, forthwith notify to the seller or his agent who sold that article his intention to have it analysed by the Public Analyst, and shall then and there divide the sample into three parts, each part to be marked and sealed or fastened up in such a manner as its nature will permit, and shall :—

(*a*) If required to do so, deliver one part to the seller or his agent.
(*b*) Retain one part for future comparison.
(*c*) If he thinks fit to have an analysis made, submit one part to the Analyst. "

In the case of " informal " samples the formalities of the Act are not complied with, and usually the seller has no idea that the sample is being bought for the purpose of analysis. Informal samples serve a very useful purpose, since they enable the Inspector to find out at what shops adulteration is being practised without causing annoyance to honest shopkeepers, whose chief objection to the taking of samples is that the Inspector takes up their time and counter space for the division of samples, and that his (the Inspector's) action excites the curiosity of the customers and may arouse their suspicions. No legal action under the Food and Drugs Act can take place with respect to an informal sample, but if the latter, upon examination, proves to be adulterated, a formal sample may, if necessary, be taken and then proceedings may be instituted, which are generally taken under Section 2 of the Act. This makes it an offence to

"Sell to the prejudice of the purchaser any article of food or any drug which is not of the nature, or not of the substance, or not of the quality of the article demanded by the purchaser." So far as chemical examination goes, informal samples are treated in the same way as formal ones. The same care is necessarily bestowed upon the analysis, since adulteration is generally detected by this means (except in the case of milk), and in cases where some particularly ingenious adulteration has been practised, practically all the work is done on the informal sample, thus making the analysis of the subsequent formal sample a comparatively simple matter.

During the past year there has been no new legislation dealing with food and drugs from the point of view of this Department. The fact that considerations of national economy were responsible for the suspension of the labours of the Departmental Committee on the amendment of Food Law is a matter for regret. The necessity for reform in certain directions was mentioned in the report for 1930 and incidental references to the same subject are made in the present report. There can be no doubt that this country lags behind both the needs of the day and other countries in the matter of its food and drugs laws.

One thousand and three samples of milk have been examined, of which 21, or 2·1 per cent, were found to be below the standard of the Sale of Milk Regulations, 1901, viz.: fat, 3·0 per cent; solids-not-fat, 8·5 per cent. Table 3 gives the comparative adulteration of milk during the past 11 years, while Tables 4, 5 and 6 show the monthly variations in the quality of all the milks examined.

TABLE 3.

ADULTERATION OF MILK.

	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
Number of Samples.	981	899	923	779	833	921	994	1028	1103	1100	1106	1003
Percentage of Adulteration.	7·2	8·9	5·3	5·4	2·6	4·7	2·5	2·1	3·9	2·5	3·3	2·1

TABLE 4.

AVERAGE COMPOSITION OF ALL MILK, 1931.

Month.	Number of Samples.	Total Solids per cent.		Fat per cent.		Solids-not-fat per cent.	
January	89	12·47	12·51	3·53	3·60	8·94	8·91
February	100		12·42		3·49		8·93
March	95		12·46		3·71		8·95
April	93	12·35	12·37	3·47	3·53	8·88	8·84
May	69		12·30		3·43		8·87
June	94		12·35		3·47		8·88
July	54	12·59	12·37	3·70	3·54	8·89	8·83
August	88		12·62		3·74		8·88
September	87		12·69		3·76		8·93
October	83	12·63	12·68	3·67	3·69	8·96	8·99
November.......	84		12·68		3·71		8·97
December	67		12·49		3·57		8·92
	1,003		12·51		3·59		8·92

TABLE 5.

AVERAGE COMPOSITION OF FARMERS' SAMPLES, 1931.

Month.	Number of Samples.	Total Solids per cent.		Fat per cent.		Solids-not-fat per cent.	
January	16	12·43	12·55	3·47	3·61	8·96	8·94
February	24		12·32		3·38		8·94
March	4		12·68		3·53		9·15
April	30	12·47	12·44	3·58	3·59	8·89	8·85
May	6		12·86		3·85		9·01
June	22		12·40		3·49		8·91
July	34	12·58	12·44	3·73	3·65	8·85	8·79
August	41		12·66		3·77		8·89
September	18		12·71		3·81		8·90
October	20	12·70	12·76	3·74	3·77	8·96	8·99
November.......	19		12·71		3·71		9·00
December	29		12·64		3·73		8·91
	263		12·56		3·65		8·91

TABLE 6.

Milk Samples other than Farmers' Milk, 1931.

Month.	Number of Samples.	Total Solids per cent.		Fat per cent.		Solids-not-fat per cent.	
January	73	12·47	12·50	3·54	3·60	8·93	8·90
February	76		12·46		3·53		8·93
March	91		12·46		3·51		8·95
April	63	12·32	12·34	3·44	3·49	8·88	8·85
May	63		12·25		3·39		8·86
June	72		12·36		3·42		8·94
July	20	12·60	12·27	3·70	3·36	8·90	8·91
August	47		12·59		3·72		8·87
September	69		12·68		3·74		8·94
October	63	12·60	12·65	3·64	3·66	8·96	8·99
November	65		12·67		3·72		8·95
December	38		12·37		3·46		8·91
	740		12·48		3·56		8·92

Table 7 gives comparative figures from the reports of other Public Analysts, and shows the average quality of the milk samples in Salford for the period 1914 to 1931.

TABLE 7.

Place.	Number of Samples.	Total Solids per cent.	Fat per cent.	Solids-not-fat per cent.
Salford 1931	1,003	12·51	3·59	8·92
Birmingham 1931	2,617	12·45	3·66	8·79
Lancashire 1931	3,090	12·65	3·84	8·81
Kent 1931	2,037	12·62	3·65	8·97
Kingston-upon-Hull ..1931	916	12·56	3·69	8·87
Average, Salford, 1914-1931	14,963	12·46	3·63	8·83

The samples of milk include 207 taken at Hope Hospital, 37 taken at Ladywell Sanatorium, 12 at the Maternity Home, and 14 at Nab Top Sanatorium. The average quality of these samples was:—

	Total Solids per cent.	Fat per cent	Solids-not-fat per cent
Ladywell Sanatorium	12·76	3·73	9·03
Maternity Home	13·12	4·03	9·09
Hope Hospital	12·38	3·69	8·69
Nab Top Sanatorium	12·43	3·47	8·96

Table 8 contains a list of samples of milk found to be adulterated, together with the action taken in regard to each sample.

TABLE 8.

No.	Nature of Adulteration.	Action Taken.	Remarks.
3466	Deficient 3·3% fat.	None.	Further samples genuine.
3495	Deficient 10% fat.	Fined £2.	Retailer.
3505	Deficient 3·3% fat.	Caution.	Other samples genuine.
3607	Deficient 10% fat.	Caution.	Retailer. farm samples deficient—See Nos. 3624.
3618	Deficient 16·6% fat.		
3624	Deficient 16·6% fat.	Caution.	Farm samples in connection with 3607-18.
3627	Deficient 3·3% fat.		
3788	Deficient 3·3% fat.	Caution.	Institution sample.
4009	Deficient 7·1% solids-not-fat.	Caution.	Further samples genuine.
4054	Deficient 6·6% fat.		
4056	Deficient 3·3% fat.		
4155	Deficient 10% fat.	Caution.	Retailer.
4212	Deficient 10% fat.	Caution.	Shopkeeper.
4227	Deficient 1·2% solids-not-fat.	None.	Farmer: Further samples genuine.
4228	Deficient 1·2% solids-not-fat.		
4229	Deficient 2·3% solids-not-fat.		
4307	Deficient 8·3% fat.	None.	Further samples genuine.
4543	Deficient 10% fat.	Bottler cautioned.	Retailer.
4882	Deficient 56·6% fat.	Bottler fined £2 and £2 2s. costs.	Retailer fined £1.
4885	Deficient 36·3% fat.	See 4882.	Taken in connection with 4882.
4886	Deficient 43·3% fat.		

Sample No. 3466 contained 2·9 per cent of fat. Two other samples taken at the same time from the same vendor were genuine. As further samples also proved satisfactory, no further action was taken.

Sample No. 3495 was deficient of 10 per cent of fat. This sample was bought from a retailer. The milk of the wholesaler supplying him was of good quality, and the vendor was summoned and fined £2.

Sample No. 3505 was taken on delivery at Ladywell Sanatorium, and was slightly deficient (3·3 per cent) of fat. Six other samples of the same contractor's milk taken at the same time were of excellent quality, and it consequently seemed as if the deficiency in this case might be due to accidental causes. A cautionary letter was sent by the Medical Officer of Health.

Samples Nos. 3607, 3618, 3624 and 3627 were all from one supply. The first two were taken on delivery in Salford, and the remaining two were among the eight samples taken by your Inspector when he visited the farm. This was a very unsatisfactory supply, but since the samples from the farm were also below the standard, no legal action could be taken.

A strong cautionary letter was sent by the Medical Officer of Health, and the milk dealer in Salford was so dissatisfied with the quality of this supply that the contract with the farmer was cancelled.

Sample No. 3788. Deficient 3·3 per cent of fat. This was one of the three samples taken at one of the Salford Hospitals where the supply is tested periodically. The contractor, whose milk was of good average quality, was requested to attend for interview, and strong representations were made to him that he must in future take steps to see that none of his milk fell below the standard.

Samples Nos. 4009, 4054 and 4056. The first of these was taken from a retailer and consisted of bottled milk. This retailer does not bottle his own milk, and consequently a number of samples were taken from the wholesale (bottling) firm. These proved to be of poor quality, though just above the legal standard. Both wholesaler and retailer were cautioned. As a result, the supplies were still kept under observation, and Samples Nos. 4054 and 4056 were subsequently obtained from two other retailers supplied by the same wholesaler. It was not possible to obtain a deficient sample direct from the wholesaler, but the whole of this supply is still being carefully watched.

Sample No. 4155, which was deficient of 10 per cent of fat, was obtained from a retailer. Investigation by your Inspector led to the discovery that it formed part of a small quantity of only one gallon received from a wholesaler, and the latter freely admitted that this quantity remained after he had delivered two gallons to another customer. This sample was taken on a Monday morning (i.e., it was Sunday's milk), and the wholesaler's milk on the following morning contained but three per cent of fat. It was considered advisable to deal with the matter by means of a caution.

Sample No. 4212. Taken from a small shopkeeper with a very limited business in milk. He was cautioned by the Medical Officer of Health.

Samples Nos. 4227, 4228 and 4229. These were slight deficiencies in a farmer's supply. The quality improved under further observation.

Sample No. 4307. Deficient of 8·3 per cent fat. This was also a farm supply and further samples were of good quality.

Sample No. 4543. A sample of bottled milk taken from a retailer. The wholesaler supplying him was cautioned.

Samples Nos. 4882, 4885 and 4886. These were all samples of bottled milk. Sample No. 4882 was bought in the morning from a retailer. Early the same afternoon, immediately the result of the analysis was known, your Inspector attempted to obtain samples from the wholesaler who bottled the milk. On arrival at the dairy, he found none of the morning's milk left. He succeeded, however, in obtaining samples of the same milk from another retailer who was supplied by the wholesaler in question. The result of the analysis of these two samples, Nos. 4885 and 4886, which were also seriously deficient in fat, made it obvious that the retailer of sample No. 4882 could not be held responsible for the deficiency in that sample. The shopkeeper had no warranty from the wholesale firm. Proceedings were instituted against him under the Food and Drugs Act, and the wholesale firm was summoned under the Summary Jurisdiction Act of 1848, for aiding and abetting, counselling or procuring the commission of the offence by him (i.e., the sale of an adulterated article of food). At the hearing of these cases the retailer pleaded guilty to a technical offence and was fined £1. The wholesale firm shouldered the responsibility and pleaded that as far as enquiries could be made to reveal, it appeared that a churn of separated milk destined for a farmer (for pig feeding) had accidentally been emptied into the bottling machine in mistake for a churn of pasteurised milk. They were fined £2 and £2 2s. 0d. costs.

Bottled Milk.

A very large proportion of the milk consumed, especially in large towns, is now delivered in bottles, and it is therefore natural that the deficiencies found in the milk samples during the year should be found in bottled milk as well as in milk delivered by the older method. The practice would appear on the whole to be for the benefit of the consumer, though it is to be regretted that the form of cap which seems to be universally favoured is a cardboard disc which fits *inside* the neck of the bottle. A type of cap which is very common in the United States covers the whole of the top of the bottle and extends about a quarter of an inch down the outside of the welted rim of the neck, beneath which it is secured. It is released by a simple screw movement. This ensures that the rim of the bottle, over which the contents are poured when the bottle is emptied, is protected and kept clean, whereas in the common type used in this country it is only too easy for the rim to suffer contamination from dirty hands and other causes. Anyone who cares to notice will observe that it is the rim of the bottle which is the usual part to be seized during delivery.

Apart from considerations of cleanliness, the advent of bottled milk has presented a new or at least an altered problem in dealing with adulterated samples.

In the first place it is possible for the bottling process (especially where this is conducted on a small scale) to result in occasional inferior samples if it is not properly supervised. Failure to stir the bulk of the milk which is being delivered to the bottling machine will cause the cream to rise, with the result that the milk bottled from the top portion will be richer at the expense of that bottled from the bottom. There is, of course, no reason whatever why the purchaser of such milk should be the victim of what is a matter of simple negligence.

An interesting point which does not appear to have received attention arises in the very common case where a retailer in a small way of business sells milk which has been bottled and sealed by a large dairy. If the cap which seals the bottle has not been removed, the retailer is obviously selling the milk exactly as he received it, and there would appear to be no reason why the bottler should not give a warranty with such milk. It is well known that warranties from wholesaler of milk to retailer have fallen into disfavour, and it is an actual fact, in Salford at least, that very few retailers have warranties from wholesalers for the quality of the milk they get from them. The reason for this is not far to seek. In the past, a retailer would obtain a warranty for milk bought in bulk, which he believed gave him full protection, only to find that the Court would not uphold it. The argument is that it is quite fair and proper for the wholesaler to warrant the quality of the milk at the time of delivery to the retailer, but not that he should be held responsible for it after it has passed out of his hands. Even half an hour later the composition of the milk remaining in the churn may be quite different, owing to the possibility of water being added (either purposely or accidentally, through rain, etc.) or fat removed, or through simple neglect to keep the milk well stirred during the intervening period between delivery and receipt. The crux of the matter is the question of "control," and as the Salford Stipendiary observed during the hearing of one of the foregoing cases, milk in bottles may well be held to be under the control of the bottler until the seal is removed.

It was suggested to the local Milk Dealers' Association that bottlers of milk should adopt a form of warranty to be printed on the cap in some such terms as the following :—

> "The milk in this bottle is warranted pure and to contain all its natural fat and milk solids, by . . . (name and address of bottler),"

and that the retailer should be given a written continuing warranty. The Association was not prepared to adopt this procedure, though one large wholesaler and bottler has stated that he will have the warranty printed on his caps in future.

During the past two or three years there have been several instances where bottled milk sold by a retailer has been found to be below standard, and where enquiry has proved that the retailer could not be held responsible for the deficiency. In such instances, and where the retailer has not had a warranty, this Department has been reluctant to recommend the prosecution of the vendor. It is quite clear that the law holds the seller responsible for the quality of the article sold, and it is furthermore obvious that the quality of milk (whether sold in bottles or not) must be maintained in the public interest.

In the writer's view, retailers of bottled milk would be well advised to obtain warranties from the bottlers of the milk they sell, since it will be impossible to pass over future deficiencies for the foregoing reasons.

The Freezing Point of Milk.

During the past two years a number of milks have been submitted to the freezing point test. This test depends for its use on the observation of the freezing point to within one-five-hundredth of a Centigrade degree. It is now a well-established fact that genuine milk has a very remarkably constant freezing point in the neighbourhood of – 0·55° C. Water, of course, freezes at 0° C., and it is obvious that if water is added to milk, the freezing point of the mixture will lie somewhere between those of pure water and genuine milk. Furthermore, it can be shown by theory, and it has been amply verified by many experiments, that the actual freezing points can be calculated if the percentages of milk and water are known. Thus, a mixture of equal parts of milk (whose freezing point is – 0·55° C.) and of water will freeze at – 0·275° C., while a mixture of 80 parts of such milk and 20 parts of water will freeze at – 0·44° C., and so on. Thus, provided the freezing points of all genuine milks are very similar, the opposite process is possible. That is to say, that from the freezing point one may determine the amount of extraneous water in any sample. Care must be exercised on one point, however—the milk sample must be fresh.

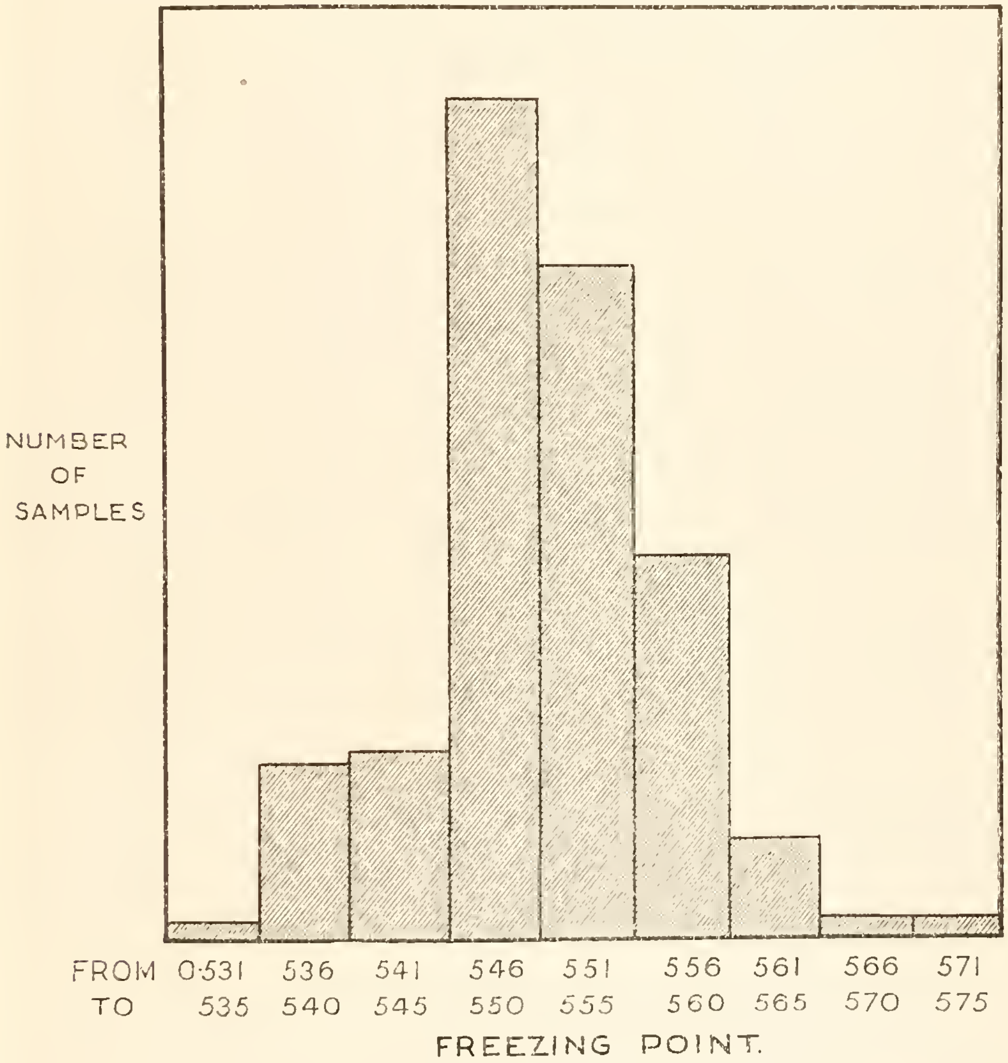
Much work has been done on the subject, mainly in foreign countries, until the last few years, and Hortvet, in America, has evolved an exceedingly accurate apparatus for the determination of the freezing point. With a view to its adoption as a most valuable means of detecting added water in milk, experiments have been carried out in your laboratory and have, in the first place, been directed to an examination of the variation in the freezing point of genuine milk. The results obtained are set forth below :—

SALFORD.

FREEZING POINTS OF GENUINE MILK—HORTVET APPARATUS.

Number of samples examined		257
Extreme range of freezing points		– 0·535° to – 0·572° C.
Average		0·551° C.
Number of samples freezing between	0·531 and – 0·535° C.	1
,, ,, ,, ,,	– 0·536 and – 0·540° C.	19
,, ,, ,, ,,	– 0·541 and – 0·545° C.	20
,, ,, ,, ,,	– 0·546 and – 0·550° C.	91
,, ,, ,, ,,	– 0·551 and – 0·555° C.	72
,, ,, ,, ,,	– 0·556 and – 0·560° C.	42
,, ,, ,, ,,	0·561 and – 0·565° C.	10
,, ,, ,, ,,	– 0·566 and – 0·570° C.	1
,, ,, ,, ,,	– 0·571 and – 0·575° C.	1

The distribution of these results is shown graphically in the following diagram :—



From the above, the following deductions are put forward which are in good agreement with the results of other workers.

(1) The freezing point of milk lies normally between −0·535 and −0·565° C.

(2) A sample of milk whose freezing point is higher on the thermometer scale than −0·530° C. (e.g., −0·510° C.) contains extraneous water.

Table 9 shows a list of samples, other than milk, found to be adulterated and the action taken with regard to each sample.

TABLE 9.

No.	Description.	Nature of Adulteration.	Remarks.
3473	Candied Peel	Contained 128 parts per million sulphur dioxide.	Caution.
3486	Liniment of Turpentine	Deficient 100% camphor and 100% soft soap.	Informal—Formal sample genuine.
3490	Bismuth Tablets	Deficient 81·3% bismuth oxycarbonate and 43·3% heavy magnesium carbonate	Informal—See 3605.
3605	Bismuth Tablets		Formal: Fined £2.
3792	Turpentine	Consisted of 100% paraffin.	Case withdrawn.
3831	Turpentine		
3853	Tartaric Acid	Consisted of Rochelle Salt.	Informal—See 4061.
3919	Blended Turpentine	Contained 93% paraffin.	Makers altered label.
3970	Turpentine	Contained 30% turpentine and 70% paraffin.	Informal—See 3971.
3971	Turpentine		Sellers fined £15 and £5 5s. costs. Packers fined £15 and £5 5s. costs.
4010	Tartaric Acid	Consisted of cream of tartar.	Informal — Same vendors as 3853 and 4061. See 4061.
4061	Tartaric Acid	Consisted of cream of tartar.	Formal—Same vendor as 3853 and 4010. Fined £5.
4230	Turpentine	95% white spirit	Labels altered.
4262	Turpentine	95% white spirit	
4282	Turpentine	30% white spirit	
4497	Margarine blended with butter.	Consisted of margarine with 3% butter.	Formal sample contained 5% butter. No action.
4394	Custard Powder	Label offence.	
4398	Custard Powder	Label offence.	
4421	Custard Powder	Label offence.	
4630	Stoneless Damson Jam	Deficient 30% fruit	Prosecution in respect of further sample No. 4895. Vendor fined 5s. Case against makers dismissed.
4695	Stoneless Damson Jam	Deficient 35% fruit	
4696	Stoneless Damson Jam	Deficient 32% fruit	
4814	Stoneless Damson Jam	Deficient 21% fruit	
4826	Candied Peel	Contained SO_2 119 pts. per million.	Formal sample contained 18 pts. No action.
4870	Whisky	Excess water 4·6%	Informal—See 4884.
4884	Whisky	Excess water 5·4%	Fined £5.

Condensed Milk.

Five samples of condensed milk were all genuine.

Butter and Margarine.

Fifteen samples of butter were all passed as genuine. The Reichert Wollny number of the fat varied from 26·0 to 30·5. The average water content was 14·6 per cent.

Of the 9 samples of margarine received, one was reported against. This informal sample contained about 3·5 per cent of butter and was labelled "Margarine Blended with Butter." In spite of the decision in the case of Annes v. Grivell, a formal sample was bought with a view to prosecution. The formal sample contained slightly more than 5 per cent of butter. It may be recalled that in the case of Annes v. Grivell, the vendor sold as "A very good mixture of margarine and butter," a substance containing 4·5 per cent of butter. As the Food and Drugs Act prohibits the sale of mixtures containing more than 10 per cent of butter, the Court felt compelled to hold that no offence had been committed, but intimated that, but for this proviso, the decision might have been the other way. It was not pointed out to the judges that the proviso does not apply to mixtures of butter and margarine but to margarine, and the Act expressly provides that any mixture of butter and margarine must be sold simply as "margarine."

Your Analyst (among others) has ventured to criticise this decision as most unfortunate, but it is undoubtedly true that proceedings instituted in respect of such a sample as the above would have practically no chance of success. One may express the hope that if and when our present Food and Drugs code comes to be revised, attention will be given to this matter, in respect of which it may be worth while recording the following points :—

1. The original intention of Section 8 of the Sale of Food and Drugs Act, 1899, was that there should be two articles, and two only, viz., butter and margarine.

2. Sanction was given to the presence of 10 per cent of butter in margarine, because at that time (1906) blending with skimmed milk had not reached the perfection since attained, and it was undoubtedly possible to obtain a better flavour with the use of butter.

3. The use of butter for this purpose is not necessary to-day. Not even an expert could distinguish the presence of 5 per cent of butter in margarine by taste alone, and it is doubtful if he could be certain of 10 per cent.

4. At the present time the only reason for the addition of butter is the selling power of the word "butter," which enables a (disproportionately) higher price to be realised. In the present instance, the article containing just over 5 per cent of butter sold at 9d. per pound, as against 6d. for ordinary margarine.

5. It is doubtful if one person in a hundred is aware that such mixtures cannot contain more than 10 per cent of butter, i.e., about 1½ ounces per pound.

The writer has been informed by a grocer that it is his experience that such butter and margarine mixtures are bought mainly by the poorer sections of the community (who probably cannot afford butter), and that he was convinced that such buyers believed them to contain something in the neighbourhood of 50 per cent of butter.

If such mixtures are not forbidden, their labels should be required to state their composition in plain and simple words, since percentages are still a mystery to many people—such as "Contains 1 part of butter to every 20 parts of margarine."

Lard and Cheese.

Nine samples of lard and 18 samples of cheese were all passed as genuine.

Jam.

Four out of twenty-one samples examined proved to be below standard. These four samples really represent one offence, since they were all jars of stoneless damson jam, and the product of one firm. Under the standards set up by the Jam Section of the Food Manufacturers' Federation, damson jam is required to contain not less than 38 per cent of damsons in the finished article, or, expressing the same thing in a different way, 100 pounds of jam must be made from not less than 38 pounds of damsons. Stoneless damson may be expected to conform to this standard allowing for the removal of stones. Expressed in this way, the amounts of damsons in 100 pounds in the four samples examined were 25, 35, 33 and 31 pounds respectively. A further sample taken during 1932 proved to be below standard, and summonses were issued in respect of it. This jam was being sold by a chain stores, and was made for them, the labels bearing their name being affixed by the makers. The sellers were charged under Section 2 of the Food and Drugs Act in the ordinary way, and the makers, under Section 30, with wilfully giving a false label. The vendors were convicted and fined 5s. In the case against the makers, the old and well-known difficulties of proving "mens rea" were encountered, and the summons was dismissed. Section 30 of the Food and Drugs Act will remain inoperative so long as the word "wilfully" remains in it.

Extended experience of the jam standards set up by the manufacturers has not bred confidence in them. They are particularly open to criticism in respect of the low percentage of fruit they require to be contained in jams of the first quality (amounts varying from 30 to 45 per cent according to the kind of fruit), and in this particular they are undoubtedly the worst standards in the civilised world. A large number of samples of jam has been dealt with in the current year, and it is intended to deal with the whole subject more fully in the next Annual Report.

Turpentine.

Out of 16 samples examined, 8 were found to be adulterated. In every case the adulterant was "White Spirit," which is a refined form of paraffin, and in the adulterated samples the amount varied from 30 to 100 per cent.

During the war, when there was a shortage of turpentine, a number of turpentine substitutes appeared and found a very wide usage. The most used, though not the best of these, was white spirit. The position of these substitutes in relation to genuine turpentine is very similar to that of margarine to butter. While they undoubtedly have their legitimate uses, their sale as turpentine is indefensible. In the cases under review, the article was in many cases described as "Household Turpentine," and generally bore the legend "Not to be used for medicinal purposes." Though the reason of this instruction was obviously to prevent the substance being used in the preparation of liniments for rubbing purposes, for which white spirit is not suitable, it raised a difficulty in instituting proceedings under the Food and Drugs Act, to which it would undoubtedly have been a successful answer that, with these words on the label, the sample could not be called a "drug" within the meaning of the Act. The extent to which the adulterated articles were being sold, however, rendered proceedings imperative, and consequently it was decided to proceed under the Merchandise Marks Act, and a summons was issued against the sellers of Sample No. 3831. When this case came before the Salford Stipendiary he expressed the opinion that the sellers were not the guilty parties, and that the proceedings should have been directed against the packers. This case was withdrawn at his suggestion. In the case of Sample No. 3971, both the packers and the sellers were summoned, and a conviction secured, both being fined £15 plus £5 5s. 0d. costs.

With regard to the other adulterated samples, suggestions were made to the packers as to what was held to be the correct labelling, and in every case the labels were altered in accordance with the views expressed by this Department.

The general principle laid down was that if the article was called "turpentine" it must consist of genuine turpentine, otherwise it should be clearly and unequivocally labelled "turpentine substitute."

It may be noted that proceedings by a Local Authority under the Merchandise Marks Act are not free from risk. Convictions under the Act are not easy to secure and in the event of a case being dismissed there is the possibility of heavy costs being given against the prosecutors. As a result of the action taken it is certain that the sale of improperly labelled substitutes in this City has been stopped, and it is believed that considerable improvement has taken place elsewhere.

Bismuth Tablets.

Two samples, informal and formal, from the same vendor, were adulterated. The remaining four samples examined were in accordance with the formula of the British Pharmacopœia for Troch. Bismuthi Co. Samples Nos. 3490 and 3605 were in reality not Bismuth Tablets, in fact it is believed that they were a proprietary brand of "digestive tablets," and the only ingredient present in medical quantity was calcium carbonate (chalk). As a result of a prosecution in respect of sample No. 3605 the vendor was fined £2.

Tartaric Acid.

The history of the three adulterated samples of tartaric acid is rather unusual. The samples were all bought at the same shop. The first time, Rochelle salt was supplied and it was thought that a mistake had been made. Accordingly, your Inspector visited the shop again and saw the same assistant (the proprietor's wife) who remembered the incident of the first sale and said that she realised her mistake. A caution was, therefore, given and the Inspector bought another sample. This proved to be cream of tartar. A third and formal sample, bought through an agent, was also cream of tartar, and in face of such wanton negligence, there was no alternative but to issue a summons. The vendor was convicted and fined £5.

Candied Peel.

Two samples out of six contained sulphite preservative in excess of the amount by the Regulations. In each case the excess was slight. Sample No. 3473 contained 128 parts, and Sample No. 4826 119 parts per million against 100 parts allowed. Though these amounts are not serious, most makers seem to be able to keep within the limits allowed, and there appears to be no reason why all should not do so. A caution was given in the case of sample No. 3473, which was sold by the vendors of an unsatisfactory sample bought in 1930. A further sample was taken from the vendors of No. 4826 and contained only 18 parts per million, and no action was taken in this instance.

Custard Powder.

Twelve samples have been examined, and in three cases objection has been taken to the labels which contained the words "Cream Custard Powder." In one instance the label bore—although in very small type—the words "Contains no eggs, milk or cream." It should be remembered that the packets contained nothing more than a cereal starch flavoured and dyed yellow. Your Analyst feels very strongly that such articles, no matter how excellent or palatable, should never have been allowed to obtain a footing on the market, under the description of custard powder, and had the Public Health Authorities exercised the vigilance 50 years ago that they do to-day, these powders would have been described as substitutes for custard, which as everyone knows, is made from eggs and milk. However, a "trade custom" has grown up, and the effect of this is that we are now compelled to accept these substances as "custard powder." We are witnessing an extension of this process to-day, and unless speedy action is taken, modern advertising and salesmanship will succeed in selling us Cream Custard Powder which consists of 99 per cent of cornflour or a similar starchy substance, and having no earthly connection with eggs, milk or cream.

With regard to the above samples, it has been impossible to trace the manufacturer of one. The second maker has agreed to drop the word "cream," while the third has been persuaded to enlarge the type of the declaration as to the absence of milk, eggs and cream.

It is to be hoped that the next revision of the Food and Drugs Act will see the introduction of a clause similar to the regulation existing in South Africa, and in most of the Australian States—"Words such as 'egg,' or 'cream' or 'creamy,' or any other word, expression, design or device suggesting the presence of egg or cream shall not appear on any package containing custard or pudding powder."

Whisky and Spirits.

Three samples of rum, four of brandy and five of whisky were found to be genuine. Two samples of whisky below strength, and the vendors of formal sample No. 4884 (excess water 5·4 per cent) were fined £5 at the Salford City Police Court.

Fertilisers and Feeding Stuffs Act.

No samples have previously been taken under this Act in Salford. The Act is similar to Food and Drugs Act in that samples may be taken with or without complying with the formalities of the Act (similar to "formal" and "informal" samples of the latter Act), and in a similar way, no proceedings can be taken with respect to an informal sample. In certain more serious cases, the consent of the Ministry is required before proceedings can be instituted, such consent being withheld until after a further analysis by the Government Chemist.

Sellers of Fertilisers and Feeding Stuffs are required under the Act to guarantee the composition of the articles sold with regard to the content of certain constituents which are valuable in the feeding of cattle (*e.g.* oil and albuminoids), and as fertilising agents (*e.g.* nitrogen, potash and phosphates), and also in the case of feeding stuffs to declare the presence of harmful ingredients such as fibre, husks, straw or sawdust. The Act and its Regulations lay down what ingredients must be declared as to percentage content in the case of every class of fertiliser and feeding stuff. Examination of these articles, therefore, consists in checking the amounts of the various ingredients guaranteed, and in seeing that the guarantee itself is also in accordance with the Act. "Limits of variation" are prescribed in the Act. The composition of the sample must not diverge from that guaranteed by more than these allowances. It is to be noted that an excess of any ingredient such as oil, albuminoids, etc., is almost as serious as a deficiency. In these days of "balanced rations," farmers consider it nearly as bad to give too much oil or protein as too little. Similarly with regard to chemical manures, the farmer wishes to know exactly how much of any given fertilising agent he is adding to his soil. The results of the twelve informal samples taken under the Act are given in the Table. From this it will be seen that of the twelve samples examined, two samples of feeding stuffs were unsatisfactory, both as to guarantee and composition. One sample of fertiliser was unsatisfactory both as to guarantee and composition. The omissions in the guarantees may be described as technical offences. The discrepancies in composition are, with one exception, in favour of the buyer, and while what is said above of allowable limits of variation, holds good the vendors are at least absolved of intent to defraud.

Upon the instructions of your Committee, the sellers were approached and asked to explain the discrepancies. Their statement was that in each case where the composition of the sample varied from the analysis by more than the prescribed amount, that they were relying on analyses furnished to them for articles of which they were not the producers. They were asked to see that the provisions of the Act were complied with in future.

FERTILISERS AND FEEDING STUFFS ACT.—FEEDING STUFFS.

Sample No.	Description.	Guaranteed.	Found.	Remarks.
4739	Soya Bean Meal	Oil 1·0% Albuminoids 44·0%	1·1% 45·4%	Satisfactory.
4740	No. 1 Barley Meal	Albuminoids 9·0% Fibre 18·0%	12·7% 10·7%	Composition unsatisfactory.
4741	Crushed Linseed	Oil —	35·0%	Guarantee absent—amount of oil should be guaranteed.
4742	Pure Barley Meal	..	..	Satisfactory.
4743	Linseed Cake	Oil 8·0% Albuminoids 28·0%	8·5% 30·8%	Satisfactory.
4744	Palm Kernel Meal	Oil 3·0% Albuminoids 11·0%	3·3% 11·3%	Satisfactory.
4745	Dried Grains	Oil 5·0% Albuminoids 16·0%	7·0% 16·2%	Satisfactory.
4746	Dried Yeast	Albuminoids 38·0%	44·7%	Unsatisfactory.
4747	Rangoon Rice Meal	Oil 10·5% Albuminoids 11·0% Fibre —	15·3% 12·2% 4·0%	Composition (amount of oil) and guarantee (no statement of fibre content) unsatisfactory.
4748	Ground Linseed Cake	Oil 8·0% Albuminoids 28·0%	9·2% 28·7%	Satisfactory.

FERTILISERS.

Sample No.	Description.	Guaranteed.	Found.	Remarks.
4749	Bone Flour Fertiliser	Albuminoids 5·0% Phosphates 29·75%	6·0% 28·5%	Satisfactory.
4750	Basic Slag	Phosphates 26·19%	11·1%	Composition and guarantee unsatisfactory—fineness of grinding should be stated.

Rag Flock.

Two samples taken under the Act were found to be substantially in accordance with the Act. The Regulations made under this Act require rag flock to contain not more than 30 parts of soluble chloride per 100,000. The samples examined contained 25 and 35 parts respectively, and while the second was slightly in excess of the statutory amount, it was passed as showing a reasonable standard of cleanliness.

Miscellaneous Samples.

Sunlight Tests	1,282
Rainwater	46
Milk	32
Cream	2
Cheese	3
Margarine	1
Lard	2
Meat	1
Breast Milk	7
Meat Extract	1
Meat Pie and Gravy	2
Suet	1
Tinned Peas	1
Jam	3
Whiskey	5
Brandy	7
Soap	7
Paraffin	1
Formalin	1
Disinfectant	1
Pills and Medicine	3
Plaster	1
Coal	2
River Water	1
Sewage Effluent	3
Police Samples	13
Well Water	1
	1,430

The above samples were received chiefly from the various Departments of the Corporation in connection with tenders, and from private persons. The Police samples consisted of material in two cases of arsenical poisoning, and two samples of carbolic disinfectant. No arsenic was found in any of the exhibits in the two former cases.

In addition to the above samples, 57 samples of air from bore holes, etc., and two samples of water were examined in connection with a special investigation concerning a proposed building site. Numerous special tests were also made on the site for the purposes of the report on this matter.

Strength of Sunlight.

The miscellaneous samples described as " Sunlight Tests " were taken in connection with an investigation begun in 1926, and continued during 1927, 1928, 1929, 1930 and 1931, with regard to the comparative strength of the sunlight received at four different stations, namely : Regent Road, Ladywell Sanatorium, Drinkwater Park and Nab Top Sanatorium, Marple.

In the case of the first named station, the tests were carried out on the roof of the Health Department, and in the other cases in the grounds of the institutions named. The test consisted in the exposure of a solution of potassium iodide acidified with sulphuric acid in a two ounce bottle in the presence of air. Free iodine is liberated by the action of the sunlight, and the amount found is proportional to the light received. The figures given in the following table represent milligrams of iodine. The monthly totals for 1931 are given below :—

Month, 1931.	Regent Road.	Nab Top Sanatorium, Marple.	Ladywell Sanatorium.	Drinkwater Park.
January	40·4	91·9	50·6	45·3
February	66·7	99·9	88·9	80·9
March	117·2	167·2	146·8	163·3
April	145·5	187·8	176·2	151·7
May	172·8	262·8	200·9	223·7
June	188·1	270·3	208·5	211·7
July	178·3	225·4	198·6	222·3
August	154·8	220·6	180·6	179·2
September	139·7	175·1	168·1	180·3
October	125·6	181·5	142·4	156·0
November	63·6	119·1	84·3	84·7
December	57·9	82·9	58·6	52·4

It will be seen that the figures for Regent Road are, in general, lower than those for the other three stations. This gives some idea of the smoke blanket which hangs over the centre of the City. Other factors such as ground mist, cannot, of course, be taken into consideration, but, in general, the figures show that the active amount of sunlight received in the centre of the City is considerably less than the amounts received in the outlying districts.

Atmospheric Pollution.

The work of examining the deposit obtained in the special gauges placed at various points in the City, which has been described in the reports for the last six years, has been continued. At the present time, the standard gauge is situated in Peel Park, and similar types of gauges are situated in the grounds of Drinkwater Park Hospital, Ladywell Sanatorium, and the Corporation Sanatorium at Marple, Cheshire.

In uniformity with the results expressed by other stations, of which there are a number scattered throughout Great Britain, the results are expressed in metric tons per square kilometre. The metric ton is equivalent to slightly more than the British ton, whilst there are 2·59 square kilometres to a square mile, so that to convert metric tons per square kilometre to English tons per square mile it is necessary to multiply by 2·55, or, roughly, 2½. The following are the results that have been obtained during the year. The contamination of the Ladywell area is rather less than that of the City areas, whilst, as was to be expected, the air at Marple is, comparatively speaking, " pure."

In order that comparison may be made with other districts, the average figures are given for the gauge giving the greatest and least deposits in the country. These figures are only available from April, 1930, to March, 1931. The gauge giving the highest deposit is that at Burnley Town Hall, whilst the gauge showing the least deposit is Western Park, Leicester.

		Salford : Peel Park.		Salford : Ladywell Sanatorium.		Salford : Drinkwater Park.		Salford : Sanatorium, Marple.		Burnley : *Town Hall No. 2.		Leicester : *Western Park.	
Rainfall in millimetres		84·3		90·23		98·4		99·97		103·0		58·0	
Tar	Insoluble matter	0·15	4·54	0·11	3·94	0·31	5·28	0·17	2·02	0·36	9·53	0·03	1·20
Carbonaceous, other than tar		1·41		1·52		2·52		0·87		3·63		0·39	
Ash		2·98		2·31		2·45		0·98		5·54		0·78	
Loss on ignition	Soluble matter	1·19	4·13	1·16	2·75	1·15	3·37	0·78	2·18	4·74	8·41	0·55	1·16
Ash		2·94		1·59		2·22		1·40		3·67		0·61	
Total Solids		8·67		6·69		8·65		4·20		17·94		2·36	
Sulphates	Included in soluble matter	1·42		0·96		1·05		0·76		1·37		0·32	
Chlorine		1·33		0·94		1·18		0·82		1·13		0·17	
Ammonia		0·02		0·07		0·07		0·03		0·07		0·13	
pH		4·1		3·75		4·37		4·30		3·33		6·24	
Acidity		0·51		0·72		0·80		0·41		..		..	

* These figures are computed from April, 1930, to March, 1931.

SECTION VII.

Maternity and Child Welfare and Supervision of Midwives.

The staff consists of three Lady Medical Officers, an Assistant Inspector of Midwives, 17 Health Visitors, two Masseuses, one Artificial Light Operator and seven Clerks.

The Medical Officers conduct all examinations of mothers and children attending the Clinics and centres. The Senior Medical Officer also supervises the visiting and assists in the administrative work of the Department, inspects the children attending the Nursery School and Nursery Classes and supervises the midwives. The second Medical Officer has charge of the Municipal Maternity Home and Babies' Hospital, and the third Medical Officer supervises Clinics and centres in various parts of the City.

The Work of the Health Visitors.

Each Health Visitor is allotted a district to the visiting of which most of her time is devoted. It is the duty of the Visitor to visit each child born on her district, and to keep a record of its progress until it reaches the age of five years. A record is also kept of all details connected with the sanitary state of the house and the health of its occupants. In addition, the Health Visitors carry on the work at the various Maternity and Child Welfare Centres throughout the City.

The following table shows the number of visits paid by the Health Visitors in the various wards of the City during the year 1931.

TABLE C.W. 1.

Wards.	First Visits to Expectant Mothers.	First Visits to Children under 1 year.	Total Visits to Children under 1 year.	Total Visits to Children 1 to 5 years.	Total Visits to Expectant Mothers.	Grand Total.
Kersal	45	145	609	562	68	1239
Mandley Park	75	182	943	1023	113	2079
Albert Park	103	318	840	1224	145	2209
Charlestown	60	278	1340	1168	74	2582
Regent	51	288	861	1098	111	2070
St. Thomas'	90	235	939	1287	114	2340
Weaste & Claremont	84	282	915	1429	101	2445
St. Paul's	36	254	1246	1531	74	2851
St. Matthias'	51	303	1025	1074	99	2198
Docks	52	220	982	1547	76	2605
Trinity	85	278	1598	2507	175	4280
Ordsall	77	239	1016	1151	103	2270
Seedley	21	85	338	690	22	1050
Langworthy	23	150	446	735	27	1208
Crescent	86	368	1632	2243	115	3990
	939	3625	14730	19269	1417	35416

Children Act, 1908.

Under Part 1 of this Act, any person who undertakes for payment, the nursing of a child under seven years of age, must be registered by the Local Supervising Authority. Such children are visited monthly, and a record is kept of the state of their health. The work involved under this Act is carried out by one of the Health Visitors.

The following is a statement of the work done during the year 1931 :—

New registrations	25
Transfers	19
Changes of address	3
Children attaining the age of 7 years	3
Children returned to parents	3
Adopted	1
Visits to Hospitals	6
Total interviews *re* cases	36
Meetings attended by Visitor	3
Total number of cases on register	37
Total number of visits paid during the year	482

Maternity and Child Welfare Clinics and Centres.

There are two Maternity and Child Welfare Clinics and eight Child Welfare Centres in Salford. The two Clinics, one of which is held in the Municipal Buildings, Regent Road, and the other in the Teneriffe Street Schools, Broughton, are open daily. The accommodation at Regent Road consists of a weighing room, two consultation rooms, a clinic for the treatment of minor ailments, and a Sunlight Clinic. During the year the consultation room and weighing room at Teneriffe Street were decorated. This made the premises more pleasant to work in, but they are still not suitable for a Maternity and Child Welfare Centre. It is urgently desired that new premises should be found to accommodate the large number of patients who attend this Clinic from the Broughton area.

The eight Child Welfare Centres are situated in the various districts of the City, as follows :—

Ordsall Centre, Landseer Street, Salford.
10–12, Encombe Place, Salford.
John Street Centre, John Street Hall, Pendleton.
Seedley Centre, St. John's Wesleyan Schools, Langworthy Road, Pendleton.
Enys Street Centre, Enys Street School, Whit Lane, Pendleton.
Woodbine Street Centre, Woodbine Street, Salford.
Regent Road Centre, 133, Regent Road, Salford.
Irlams-o'-th'-Height Centre, Congregational Church, Irlams-o'-th-' Height.

These Centres are open once weekly. Here the children are weighed, and the mothers can seek advice *re* feeding and general care of their infants. The number of attendances at the centres is gradually increasing, particularly is this the case at the Seedley Centre.

All children are medically examined at their first attendance, and at regular intervals afterwards. Children who require treatment for minor ailments are sent to the Clinic at Regent Road or Teneriffe Street. More serious conditions are referred to their own Doctor or to Hospital. Expectant and Nursing mothers who are in need of advice are also seen at the Centres, but are referred for more detailed examination to one of the Ante-natal Clinics.

The cases attending the Clinics and Centres are "followed up" in their homes by the Health Visitors who help the patients to carry out the instructions given.

Sewing classes are held at Encombe Place, John Street, Enys Street, Ordsall and Regent Road. Here mothers are taught to make baby garments and also to make "thrift" garments, i.e., garments for children made from cast-off adult clothing.

At Ordsall, Encombe Place and John Street Centres, expectant and nursing mothers are able to obtain dinners on every full working day at a nominal price. Every expectant mother attending the dinners is asked to attend the Ante-natal Clinic regularly, and is kept under medical supervision.

The following figures show the number of attendances and consultations at the Clinics and Centres :—

TABLE C.W. 2.

CLINICS AND CENTRES.	No. of New Cases. Children.		No. of New Cases. Mothers.		Total Attendances.				Grand Total Attendances.	Consultations.			
					Mothers.		Children.			Children.		Mothers.	
	Under 1.	Over 1.	Expectant.	Nursing.	Expectant.	Nursing.	Under 1.	Over 1.		Under 1.	Over 1.	Expectant.	Nursing.
C.W. Clinic	521	421	504	42	2312	104	3881	4725	11022	1873	1848	2312	105
Ordsall	186	65	13	134	25	1572	2642	1345	5584	598	344	25	58
Encombe Place	245	59	35	145	74	1296	3598	1695	6663	834	538	74	30
John Street, Pendleton...	220	32	28	172	78	1901	3866	1834	7679	733	353	78	47
Seedley	356	103	3	262	4	2739	5179	2355	10277	888	536	4	41
Enys Street	183	82	21	107	35	1392	3346	1827	6600	741	544	35	19
Regent Road	243	170	6	95	6	672	2211	1731	4620	694	515	6	..
Woodbine Street........	221	40	2	131	3	1316	2644	968	4931	582	276	3	5
Teneriffe Street Clinic ..	550	387	113	77	351	139	5779	4149	10418	2362	1834	351	139
Irlams-o'-th'-Height	111	21	5	62	7	878	1474	490	2849	504	239	7	27
	2836	1380	730	1227	2895	12009	34620	21119	70643	9809	7027	2895	471

Massage.

Massage Clinics are open daily at Regent Road, thrice weekly at Teneriffe Street, and once weekly at Encombe Place, Enys Street, Ordsall and Seedley Centres. The majority of the cases treated are suffering from rickets, and the results in all cases where the mothers attend regularly, and for a sufficient length of time, are very satisfactory. The children attending for massage are seen regularly by the Medical Officers. There are still some mothers who cease attending before the children are officially discharged. These cases are "followed up" by the Health Visitors to find out the reason for non-attendance, and are invited to re-attend. After they have been discharged, the mothers are invited to bring their children regularly to the Child Welfare Centres in order that they may be kept under observation.

During the year 1931, the following cases have been dealt with :—

Clinics and Centres.	No. of regular cases.	No. of Casual cases.	Cases Discharged cured.	Total No. of Attendances.
Regent Road	158	178	36	4730
John Street (4½ mths)	25	24	6	340
Encombe Place	25	54	6	500
Teneriffe Street	54	106	13	1231
Enys Street	47	43	16	1057
Ordsall	27	23	7	494
Seedley (7½ mths)	55	53	8	675
Babies' Hospital	45	..	34	440
	436	481	126	9467

Artificial Light Clinic.

The work of this Clinic continues to be successful. The conditions for which artificial sunlight is administered are Rickets, Anæmia, Marasmus and Debility following acute infectious diseases. The results obtained are very gratifying, and only a few cases fail to respond to treatment. After discharge from the Sunlight Clinic each child is kept under observation by the Medical Officer at the Child Welfare Centre. In a few special cases, a second course of treatment has been found necessary. The treatment is administered by a competent operator under the supervision of the Medical Officer. All cases are examined regularly during the course of treatment.

The following are the Sunlight Clinic figures for the year 1931 :—

Individual cases	264
Total attendances	3981
Cases discharged	71
Very much improved	16
Much improved	19
Improved	36
Cases sent into Hospital	6
No improvement owing to irregular attendance	78

Ante-Natal Clinics.

Ante-natal Clinics are held on Thursday each week at Regent Road and Teneriffe Street. The numbers attending these Clinics continue to be satisfactory. More cases are being sent by the midwives who quite often accompany their cases to the Clinics, and are present at the examinations.

Each patient is medically examined at the first attendance and at regular intervals afterwards. If any abnormal condition is found, the patient is referred to a Specialist or to a Hospital for the appropriate treatment.

In addition to the two Clinics mentioned above, the Senior Medical Officer also attends the Ante-natal Clinic held once monthly at the Royal District Nurses' Home. Cases attending this Clinic who require to be seen more frequently than once monthly are asked to attend the Clinic at Regent Road. The number of cases seen during the year 1931 was 233.

Milk Scheme.

Under the Free Milk Scheme assistance has been given to 1,402 applicants, free milk or dried food being granted to 1,345, and milk at part-pay to 57. Assisted cases are kept under careful observation, and are required to attend the Clinics and Centres regularly. In all cases investigation as to the financial circumstances of the family is made before any assistance is granted by the Corporation.

Home Helps.

The applicants for Home Helps are usually known to the Maternity and Child Welfare Department through the Free Milk Scheme, and are consequently deserving cases. Home Helps are only supplied where there is absolutely no one to look after the home and other children whilst the mother is in bed. The Home Help attends at the home for ten days from the day of confinement, her hours being from 8 a.m. to 2 p.m., for which she receives from the Corporation 4s. 0d. per day, but provides her own food. Her duties are to look after the house and children generally, see older children off to school, and prepare meals for the mother and the rest of the family. She does not do the family wash, but may if necessary, wash baby clothes in readiness for the Midwife's visit. As far as possible Home Helps are supplied from the district in which the patient lives, for the sake of convenience, and in order to save travelling expenses. If it is necessary to supply a Home Help who lives some distance away from the patient, reasonable travelling expenses are allowed.

There are five Home Helps on the books at present, they being women who are particularly suited for the work, and who are well known to the Health Visitors as to character, reliability, etc.

The Scheme has been in operation since 1920, and has worked very satisfactorily. During the year 1931, 3 women have been employed as Home Helps and 14 necessitous cases have been supplied. In one case, where the family were suffering from illness and were in acute distress, the Home Help was allowed to attend for three weeks instead of the usual ten days.

Municipal Maternity Home and Babies' Hospital.

This Institution has accommodation for 10 maternity cases and 16 children.

The staff consists of the Medical Officer, Matron, Sister, four Staff Nurses and eight Probationer Nurses. The Hospital is recognised by the Central Midwives' Board as a Training School for Midwives. As the accommodation at the Hospital is limited, only a few pupils can be taken each year; this means that the pupils get more individual teaching and more practical work than they would do at a large Training School. Each pupil attends the Ante-natal Clinic at Regent Road. During 1931, seven pupils took the examination of the Central Midwives' Board and all seven were successful.

All cases for the Maternity Home are booked at Regent Road and are required to attend the Ante-natal Clinic there. There is no difficulty in getting patients to attend this Clinic, and as a result any abnormalities are treated promptly and serious complications avoided at the time of confinement. When they are discharged from the Home, patients are invited to attend the Child Welfare Centres where they may receive advice regarding their own health and that of their babies.

MATERNITY DEPARTMENT.

The number of cases admitted during the year 1931 was as follows :—

For special ante-natal treatment	19
For confinement	244
Miscarriages	2
Treated and not returned for confinement	2
Referred to Hope Hospital	1
Not confined in 1931	3
BIRTHS (including 3 sets of twins).	
Males	114
Females	121
STILL-BIRTHS.	
Males	7
Females	5
DEATH OF INFANT.	
Male	1
MEDICAL ASSISTANCE.	
Maternity	80
Infants	4

BABIES' DEPARTMENT.

The 16 beds for children are divided into 10 beds for cases of Rickets and 6 beds for cases of Marasmus and Nutritional disorders. These cases require a stay of three to four months in Hospital for the treatment to be successful, and only a limited number can therefore be admitted in the course of a year. The results obtained are very satisfactory. A Sunlight Lamp is used for the treatment of Rickets and Marasmus. Clinical treatment is supplemented by natural sunlight and fresh air. In the summer months it is often possible to keep the children out of doors all day. When a child is discharged from Hospital, the mother is given written instructions as to feeding, etc.

ADMISSIONS.

The number of cases admitted during the year 1931 was 53, disposed as follows :—

24 Rickets.
2 Rickets with marked Anæmia.
14 Marasmus.
9 Malnutrition.
1 Rickets—Obesity—Pituitary disorders.
2 Rickets—post Pneumonia.
1 Rickets—ununited fracture of right forearm.

DISCHARGES.

The number of cases discharged during the year 1931 was 48. These were as follows :—

Cured.

17 Rickets.
2 Rickets with Anæmia.
12 Marasmus.
3 Malnutrition.
1 Early Tubercular Spine.

Improved.

1 Rickets, Obesity, Pituitary disorders.
1 Rickets, fractured right forearm.
3 Marasmus.
2 Rickets.

No improvement.

4 Rickets—removed at parents' request.
1 Marasmus.

Transferred to Hope Hospital.

1 Pyloric Stenosis.

DEATHS.

The number of deaths during 1931 was 5, as follows :—

1 Rickets, Anæmia, Broncho-pneumonia.
1 Marasmus and Acute Broncho-pneumonia.
1 Marasmus—Prematurity (twin).
1 Gastro-enteritis, Broncho-pneumonia.
1 Marasmus and Chronic Dyspepsia.

Supervision of Midwives.

There are 72 midwives on the register in Salford ; 10 are connected with a Public Institution, and four are not practising, leaving 58 practising midwives, of whom 46 reside within the City.

PARTICULARS OF QUALIFICATIONS.

	Bonafides.	St. Mary's Hospital.	London Obstetrical Society.	Central Midwives Board.	Total.
Practising Midwives	3	5	4	46	58
Non-practising Midwives	—	—	—	4	4
Maternity Nursing	—	—	—	—	—
Institution Nurses	—	—	—	10	10
Totals	3	5	4	60	72

The midwives are regularly visited, and their books, instruments, etc. inspected by the Assistant Inspector of Midwives under the supervision of the Medical Officer. From time to time meetings are held at the Health Offices, where the midwives may discuss with the Medical Officer any difficulties which may arise in their practices, and where the Medical Officer brings to their notice any points which she wishes them to observe.

During the year, five midwives removed from the district ; three of these from the Royal District Nurses' Home ; three changed their addresses, and three midwives were newly registered.

Also during the year 1,980 births were attended by midwives alone, and 229 cases were attended by doctors with midwives acting as maternity nurses.

Notifications.

Under the Midwives' Act, midwives must make the following notifications to the Local Supervising Authority :—

1. Each time they require to call in a medical practitioner.
2. Any contact with infectious disease.
3. Still-births.
4. Infant Deaths.
5. Substitution of Artificial feeding.

During the year 876 notifications for medical assistance were received, the causes being as follows :—

Abnormal Presentations	79
Deformed Pelvis	6
Ante-partum Hæmorrhage	33
Placenta Praevia	1
Post-partum Hæmorrhage	19
Uterine Inertia	123
Obstructed Labour, or requiring instrumental assistance	99
Retained Placenta or Membranes	28
Ruptured Perineum	192
Rise of Temperature	28
Eclampsia	2
Premature Birth	24
Miscarriage and Abortion	15
Inflammation of Eyes	92
Other causes relating to Mother	76
Other causes relating to Child	59
Total	876

Eight notifications of contact with infectious disease were received, 83 still-births and 49 deaths of infants were notified during the year, and there were 36 notifications of artificial feeding.

Investigation of Still-births and Infant Deaths.

Each case of still-birth and infant death occurring in midwives' practices is thoroughly investigated by the Assistant Inspector of Midwives. Out of the 83 still-births occurring in midwives' practices there were :—

9 Abnormal presentation.
6 Premature.
3 Spina Bifida and other deformity.
1 With history of previous still-birth.
8 Born before arrival of help (four of these were macerated).
17 Macerated.
4 Where mother had had a bad shock.
4 Ante-partum Hæmorrhage.
9 Illness of mother.
2 Hydrocephalus.
10 Difficult Labour.
3 Where cord was several times round child's neck.
5 Where doctor was engaged for the case.
2 Where the mother had suffered as a result of accident.

Forty-six notifications of infant deaths were received, a medical practitioner being called in each case. The causes of death were as follows :—

17 Prematurity and debility.
8 Prematurity and cardiac failure.
4 Congenital malformation.
7 Congenital debility.
5 Convulsions.
1 Injuries from parturition.
2 Asphyxia Pallida.
1 Marasmus.
1 Operation for intestinal obstruction.

Inquests were held in connection with three infant deaths occurring in practices of midwives where no medical practitioner had been in attendance at birth. One was a case of premature birth (the child only lived 10 minutes); the other two were apparently healthy when born, but had convulsions before the nurses' second visit and died before medical aid could be procured. A verdict of death from natural causes was returned in each case. When necessary the Assistant Inspector attends the inquests.

Puerperal Fever.

Seventeen cases of Puerperal Fever were notified during the year of which three proved fatal; four were doctors' cases; four midwives had one case each; one midwife had two cases, and seven were confined in Hope Hospital.

All cases are thoroughly investigated by the Inspector of Midwives and every precaution taken to prevent the spread of the disease. The patient is removed to Ladywell Sanatorium and her room and bedding disinfected. The midwife is interviewed and particulars taken of the case; also a résumé of the work she had done since she last saw the infected person; she is temporarily suspended in order that she may go to the Disinfecting Station to have her person, clothing, bag and instruments disinfected. Other cases which the midwife may have been attending at the same time are visited by the Inspector. The midwife is warned to watch these cases carefully and, if she is at all anxious, to send for medical help without delay.

In a case of suspected sepsis, the midwife sends for the doctor and reports at the Health Offices. She is temporarily suspended until she hears the doctor's decision. As an alternative, she may devote herself to one patient and pass on her other duties to another midwife.

Puerperal Pyrexia.

During the year 23 cases were notified in Salford; 21 recovered and two proved fatal, the cause of death in each case being pneumonia.

15 cases occurred in Hope Hospital.
4 cases were nursed at home.
4 cases were removed to Hospital.

The causes of the Pyrexia were as follows:—

2 Pneumonia.
2 Pyelitis.
3 Influenza.
1 Bronchitis.
2 Mastitis.
1 Septic endometritis following abortion.
1 Septic endometritis and sapræmia.
1 Septic endometritis following inversion of uterus.
1 Bronchitis and parametritis.
1 Sub-involution of uterus.
1 Sapræmia.
1 Exhaustion after long labour.
1 Parametritis and septic endometritis.

As the regulations require prompt notification of rise of temperature, special attention for these cases is quickly available and, if necessary, a Consultant may be called in.

Bacteriological examination of lochia and blood are made on request at the Municipal Laboratory.

The same precautions are taken with Puerperal Pyrexia as with Puerperal Fever, the disinfection and suspension of midwives being carried out in a similar manner.

Disinfection.

Midwives also require to be disinfected if they have been in contact with a case of any other notifiable infectious disease. Two midwives were disinfected at Mode Wheel Disinfecting Station on account of having been in contact with cases of Pemphigus Neonatorum.

Ophthalmia Neonatorum.

There has been a considerable decrease in the number of cases of Ophthalmia Neonatorum notified this year. In 1930 there were 34 cases notified, and in 1931, 13 cases. Of these :—

6 occurred in the practice of midwives.
2 were notified from the Royal Eye Hospital, Manchester.
1 was notified from the Maternity and Child Welfare Clinic.
3 were notified from Hope Hospital.
1 was a doctor's case.

In nine cases, both eyes were affected, and in four cases one eye was affected. Four cases were classed as severe, two moderately severe, three slight, and four very slight. All 13 cases recovered without injury to sight.

These cases are visited by the Assistant Inspector of Midwives, and where necessary a District Nurse is sent to carry out treatment under doctor's orders. One case was referred to the District Nurse, who paid seven visits. 57 visits were paid by the Assistant Inspector of Midwives.

During 1931, 92 cases of discharging eyes were notified by midwives. All cases were visited by the Inspector of Midwives until the condition had cleared up. In all 301 visits were made.

Ophthalmia Neonatorum.

Cases Notified.	Cases Treated.			Vision Unimpaired.	Vision Impaired.	Total Blindness.	Deaths.
	At Home.	At Hospital. Out-P.	At Hospital. In-P.				
13	7	1	5	13	Nil.	Nil.	Nil.

Pemphigus Neonatorum.

There has been a large increase in the number of cases of this disease during the year 1931, the number of cases occurring being 27.

20	of these cases were born in Hope Hospital.
4	occurred in midwives' practices.
1	was born in Crumpsall Hospital, Manchester.
2	were attended by St. Mary's Hospital Nurses.

Of the 20 cases which occurred among babies born in Hope Hospital, 14 were notified from the Hospital, and six developed the rash after they were discharged from the Hospital. The age of onset varied from four days to three weeks. Three of the cases proved fatal. Every precaution was taken to prevent the spread of the disease.

Nursing Homes Registration Act.

One Nursing Home has been registered during the year, and one closed, There are now nine Nursing Homes registered in the City ; five of these are Maternity Homes, three Medical and Surgical Homes, and one Maternity, Surgical and Medical.

These Homes are inspected regularly by the Senior Medical Officer assisted by the Inspector of Midwives.

TABLE C.W. 3.—NOTIFICATION OF BIRTHS.

Ward.	St. Mary's Still Births.	Still Births Notified.	Total Live Births Notified.	Births Notified by Midwives.	Births Notified by Medical Practitioners.	Births Notified by Parents and other Persons.	Births in St. Mary's Hospital.	Births in Municipal Maternity Home.	Births in Hope Hospital.	Live Births not Notified.
Kersal	1	7	157	72	44	..	10	14	17	11
Mandley Park ...	3	6	177	116	24	..	11	6	20	3
Albert Park	1	8	283	156	37	..	12	24	54	5
Charlestown	1	8	253	154	24	..	4	23	48	..
St. Matthias'	1	16	259	157	32	..	15	6	49	..
Trinity	1	16	277	176	43	..	11	5	42	1
St. Thomas'	2	13	230	115	9	2	1	27	76	1
Claremont	..	4	71	19	35	..	2	8	7	6
St. Paul's	1	21	254	176	10	..	2	12	54	..
Seedley	..	7	98	37	12	..	..	19	30	..
Langworthy	1	7	163	90	11	..	2	22	38	..
Weaste	1	11	174	97	18	2	2	14	41	4
Regent	..	18	289	158	27	1	8	12	83	1
Docks	..	8	191	98	22	..	3	20	48	..
Crescent	1	23	364	210	41	..	7	12	94	4
Ordsall Park	..	12	225	145	8	1	4	11	56	..
	14	185	3465	1976	397	6	94	235	757	36

TABLE C.W. 4.

SUMMARY.

BIRTHS.

Registered : Legitimate. 3357 ; Illegitimate, 122 ; Total, 3479.
Notified : Live births. 3,465 ; Still births, 185 ; Total, 3650.
By Midwives, 2,062 ; by Parents, Doctors and Institutions, 1,528.
Un-notified Births = 36.

STILL BIRTHS.

	Legitimate.	Illegitimate.	Total.
Males	85	3	88
Females	96	1	97
Total	181	4	185

INFANT DEATHS (UNDER 1 YEAR).

Number : Legitimate, 326 ; Illegitimate, 25 ; Total, 351.
Rate per 1,000 births : Legitimate, 97 ; Illegitimate, 205 ; Total, 101.

MIDWIVES.

Number practising in district : Trained, 55 ; Untrained, 3.
Number of visits paid : Routine and special, 339 ; Miscellaneous visits, 496.

HEALTH VISITORS.

Visits paid by Health Visitors during year :—
To Expectant Mothers : First visits, 939 ; Total visits, 1,417.
To Children : First visits, 3625 ; Total visits, 33999.
To Mothers and Children : Total visits, 35,416.

	No. of cases notified.	No. of visits.	No. of cases nursed.	No. of cases removed to hospital.
Ophthalmia Neonatorum	13	57	1	5
Puerperal Fever	17	20	2	8†
Puerperal Pyrexia	23	33	4	4*

†7 notified from Hope Hospital and isolated there.
*15 ,, ,, ,, ,, ,, ,, ,,

Demonstration Windows—Regent Road, Salford.

These windows arouse a good deal of interest among the mothers. many of whom come to Regent Road to learn more about the methods of feeding, clothing and general care of the children.

Nursery School and Nursery Classes.

The Senior Medical Officer visits the Nursery School at Hulme Street once monthly and inspects the children attending there.

During the year, Nursery Classes were started in several of the Elementary Schools. At present only two of these are being visited regularly, but it is hoped to re-organise the work of the Department so that all the children attending Nursery Classes may be regularly examined.

SECTION VIII.

Hope Hospital.

The following particulars are extracted from the report of the Medical Superintendent (Dr. J. Dudgeon Giles, O.B.E.) for the year 1931.

1. GENERAL.—During 1931 the number of beds and cots provided in the wards was 1,000. The average number occupied daily throughout the year was 919. The highest number of patients was 1,067 on 17th February, 1931, and the lowest 788 on 23rd December, 1931. During the whole of 1931 the Temporary Hospital (86 beds) continued in full use.

It is very pleasing to be able to report that, except in the first month or two of the year, the general overcrowding of the wards which was so evident in 1930 has not occurred in 1931.

The average number of beds occupied daily in 1930 was 969. In 1931 the average was 919. The notable fact to be recognised is that in spite of this lessened average number of patients, the total number treated has increased very considerably—the total number of in-patients and births in 1931 being 9,710, as compared with 9,209 in 1930, an increase of 5·4 per cent. In this connection it is interesting and important to note that out of the 8,959 in-patients who were discharged or who died in 1931, 6,510 had been in the Hospital for four weeks or less. These figures show what a large proportion of the cases treated have been suffering from acute illnesses, not necessitating prolonged stay in hospital. The turn-over of patients has been accelerated, so that a larger number of patients have been treated with the same bed accommodation, and without the necessity of using temporary "shake-downs" on the ward floors.

While it is satisfactory to record the comparative absence of overcrowding during 1931, it cannot be too emphatically repeated (*a*) that the majority of the wards still contain too many beds, and (*b*) that the majority of the day-rooms of the Hospital are still filled with beds and used as wards. Conditions in the Hospital will not be satisfactory until the cubic space and the space between individual beds have been increased, and this can only be done when the new Hospital Blocks become available for use.

With the Hospital in its present condition as to bed accommodation, it is fortunate that we have not had to deal with a serious epidemic of any magnitude. As it is, our means of isolation for measles, chicken-pox, and other infectious diseases, and for cases suspected of infectious disease, is very unsatisfactory.

Medical Staff.—No addition has been made to the Resident or to the Visiting Medical Staffs during 1931.

Nursing Staff.—All members of the staff are now being systematically subjected to the Dick and Schick tests, and are being immunised against Diphtheria and Scarlet Fever where necessary. 198 cases of sickness necessitating treatment in Hospital occurred among the Nursing Staff in 1931 ; this represents 86 per cent of the total Nursing Staff.

Medical Wards.—A large amount of valuable investigation and treatment has been done, and many written reports on cases sent to the Practitioners in Salford.

Under the direction of Dr. Langley, the Visiting Physician, important work has been undertaken on Pneumonia. Two cases were treated with Felton's Serum with encouraging results, and the work in connection with Pneumonia is being pursued. In the case of this disease, which, even when treated under Hospital conditions, shows a mortality of nearly 40 per cent, and which attacks frequently men and women in the prime of life, it is obviously of supreme importance that anything likely to decrease the mortality should be carefully investigated and tried out.

The electro-cardiograph has been extensively used, and has proved most valuable in the investigation of heart conditions and in controlling treatment. 153 patients were examined by this method in 1931.

Surgical Department.—The number of cases subjected to surgical operation in the Theatre has increased from 1,807 in 1930 to 2,004 in 1931. There are now regular operating sessions daily (except Sundays) throughout the year, and emergency operations are, in addition, a daily occurrence. Out of the 2,005 cases operated on, 1,775 were undertaken by myself and by members of the Senior Resident Staff. Operating Surgeons and number of operations performed were as follows :—

Medical Superintendent .	543	(including	28	for tonsils	and	adenoids).
Dr. Smith	224	,,	45	,	,,	,,
Dr. Brown	987	,,	555	,,	,,	,,
Dr. Hunter	101					
Mr. Milner	138					

Members of the Resident Staff administered 1,491 of the total number of anæsthetics in the Theatre.

During the year 628 operations for enlarged tonsils and adenoids were performed. Of these 487 were in children of school age, representing, at a charge of 25s. per case, a potential income of £609. The Hospital has not yet been "recognised" by the Board of Education, so that no grant is available in respect of these cases. A total of 628 cases (including those above and below school age) was operated on, the operations being performed by the following Doctors:—

Dr. Brown (R.S.O.)	555
Dr. Smith (D.M.S.)	45
Medical Superintendent	28
	628

During 1931, Orthopædic cases from the schools began to be examined by Mr. Milner, the Visiting Orthopædic Surgeon, and put under treatment. Between September and the end of the year 16 children were admitted for in-patient treatment, remaining in for a total of 92 weeks—representing a potential income of £207 for maintenance only and exclusive of the cost of splints and other appliances. Mr. Milner attends the Hospital on at least two days weekly (Monday and Thursday). On Monday he examines out-patients and visits cases in the Wards. Thursday is largely given up to operative work in the Theatre. The Orthopædics Sister (Sister Tunnah) was allowed two months' leave of absence in order to reside at a special Hospital to undergo intensive extra training in orthopædic methods.

During 1931, 23 cases suffering with malignant disease were referred to the Radium Institute for examination and treatment. It is hoped that in the near future a complete scheme of collaboration with the Radium Institute regarding the treatment of cancer will be submitted to the Committee.

The Operating Theatre is very unsatisfactory, being structurally unsuited for modern operating work. The medical and nursing staffs are working under very bad conditions, both as regards space and atmosphere. There is no anæsthetising room. The sterilising room is too small, and its close proximity to the Operating Theatre renders the rooms unpleasantly hot and humid. When it is remembered that over 2,000 cases passed through this one theatre in 1931, I think it reflects the greatest credit on the staff concerned that results from the point of view of asepsis and recovery are excellent. Especially is this remarkable in view of the fact that virulently septic cases have to be dealt with in the same theatre as clean, aseptic cases. It is urgent that this condition of affairs should be remedied, and it is to be hoped that the new operating theatres may very soon be made available for use.

Pathological Department.—The pathological work of the Hospital has continued to increase, so that in the latter part especially of 1931 the amount of skilled pathological and other work demanded of Dr. Crawford, the Pathologist, has gone beyond what he can possibly undertake single-handed. It has been impossible for some considerable time for

Dr. Crawford to accomplish certain of the procedures which are essential if the patients are to receive proper investigation and treatment. The actual number of specimens examined this year exceeds those of last year by nearly 1,000. The mere number of specimens does not, however, convey an accurate impression of the increased work, because there has been simultaneously a demand for examinations demanding the highest skill and experience as well as a normal increase of what are more or less routine procedures, which can be carried out adequately by assistants under the Pathologist's supervision.

MATERNITY DEPARTMENT.—As will be seen from Dr. Smith's special report, the maternity ward has overflowed its boundaries, and it has been necessary to use a number of beds on B.3 Ward for pre-maternity and even for confinement cases. This procedure, while under existing conditions necessary, is not ideal, as it involves treating maternity cases in a ward where other patients with medical diseases are housed. It is hoped that, when the wards in the new Hospital Blocks are made available, it will be found possible to allocate another complete ward unit, modified and reconstructed for the purpose, to the Maternity Department.

MENTAL DEPARTMENT.—There has been rather a noticeable diminution in the number of mental cases admitted (both male and female). In spite of this fact, both the male and the female mental wards have frequently been unpleasantly overcrowded. My adverse report of last year still applies in all particulars. This year very considerable delay has often been experienced in obtaining vacancies for patients certified for removal to County Mental Hospitals. This is detrimental to the recovery and treatment of the patients so kept waiting for transfer, and their presence for long periods in our wards increases the difficulties of the staffs concerned. In wards which are already unsatisfactory from the point of view of the segregation of adults from children, and of recoverable from incurable and violent and noisy patients, this delay in disposing of patients suitable for County Mental Hospitals is specially to be deprecated.

V.D. WARD.—A small ward for the treatment of females and children has been specially reconstructed and equipped on C.2. This ward was opened for the admission of patients in June. Since then 32 patients have been under treatment. The cases are under the medical supervision of Dr. Burke, Venereal Diseases Officer of the City.

MATERNITY DEPARTMENT.

DR. SMITH REPORTS AS FOLLOWS:—

The work of this department is still increasing. During the whole of the year, in addition to the 33 beds in the Maternity Ward, 16 beds in B.3 Ward have been used for waiting mothers. These have been occupied principally by those with some disease complicating pregnancy and requiring in-patient treatment before confinement. But on several occasions many of these beds have been filled by women only a day or two off confinement, and even on a few occasions by lying-in mothers.

This was necessary because at such times all the beds in the Maternity Ward were filled with lying-in mothers and those actually in labour.

Such a condition of affairs, necessitating as it does the movement from one ward to another, often at short notice, of women starting labour and lying-in mothers is, of course, not ideal.

The ante-natal clinic was transferred with the out-patient department from the accommodation in the Old People's Homes to the Concert Hall in the Hospital. Accommodation is now much more satisfactory for both patients and staff.

	1931.		1930.	
	Total.	Per cent.	Total.	Per cent.
Total Number of Cases	809	—	750	—
Instrumental and Manipulative Deliveries	38	—	36	—
Craniotomy	—	—	2	—
Cæsarian Section	6	—	19	—
Induction of Labour—				
Bougie	28	—	29	—
Quinine	4	—	12	—
Hæmorrhages	22	—	16	—
Albuminuria of Pregnancy	30	—	15	—
Eclampsia	4	—	—	—
Puerperal Septicæmia	4	0·49	2	0·27
Maternal Deaths	9	1·1	5	0·7
Pemphigus	10	—	—	—
Ophthalmia Neonatorum	1	—	—	—
Stillbirths	60	7·4	51	6·8
Infantile Deaths (up to 10 days)	19	2·3	12	1·6
Plural Births—				
Twins	5	—	4	—
Triplets	1	—	—	—
Ante-natal Attendances	4,943	—	3,089	—
Ante-natal New Cases	755	—	763	—
Percentage of Cases which had attended Ante-natal Clinic	—	93·4	—	66
Pupil Midwives under Training	26	—	25	—
Pupil Midwives obtaining Diploma of Central Midwives' Board	26	—	22	—

MATERNAL DEATHS—

2 Cases had pneumonia on admission.
1 Case had severe anæmia on admission and developed broncho-pneumonia afterwards.
2 Cases were admitted with severe eclampsia.
1 Case died of cardiac failure following obstructed labour outside.
2 Cases developed general peritonitis.
1 Case had acute suppurative pyelonephritis.

ECLAMPSIA.—Of the four cases two were ante-natal cases. One of these had missed her last attendance at the ante-natal clinic. Another had attended the week previously when there was no sign of the disease. Both the cases who had been attending the ante-natal clinic recovered.

PEMPHIGUS.—There were ten cases this year; the first outbreak for several years. There was an outbreak in the City at the same time.

OPHTHALMIA NEONATORUM.—The one case made a complete recovery.

STILLBIRTHS.—The causes were :—

Hæmorrhages of pregnancy	13
Malpresentations	6
Prolapsed cord	4
Asphyxia (cord round neck)	1
Prolonged labour	7
Toxæmia of pregnancy	2
Fœtal deformities	3
Specific disease	5
Macerated	7
Prematurity	5
Cause not found	7
	60

INFANTILE DEATHS.—The causes were :—

Prematurity	9
Specific disease	1
Spina bifida	2
Congential atelectasis	2
Asphyxia following breech presentation	1
Intraventricular hæmorrhage	1
Laceration tentorium cerebelli	1
Obstructive jaundice	1
Toxæmia (mother had pneumonia)	1
	19

4. X-RAY DEPARTMENT.

	1928.	1929.	1930.	1931.
Number of Patients	1.118	1,300	1,985	2,559

5. DEPARTMENT OF MASSAGE AND ELECTRO-THERAPEUTICS.

(*a*) *Massage.*	1928.	1929.	1930.	1931.
Number of In-patients	212	247	309	317
Number of Out-patients	76	85	125	187
Total	288	332	434	504
Number of Treatments—	1928.	1929.	1930.	1931.
In-patients	6,333	8,246	9.377	8,911
Out-patients	2.089	2,579	3,114	4,152
Total	8,422	10,825	12,491	13,063

(*b*) *Electro-Therapeutics.*				
In-patients	44	34	85	90
Out-patients	29	26	60	69
Total	73	60	145	159
Number of Treatments—				
In-patients	954	1,513	3,256	2,901
Out-patients	862	854	1,560	2,421
	1,816	2,367	4,816	5,322

(*c*) *Ultra-violet Radiation.*				
Number of Treatments	1.400	1,730	2,072	2,105

6. OUT-PATIENTS' DEPARTMENT.

	1928.	1929.	1930.	1931.
Dressings and Treatments	2.398	6.414	6.523	9,684
Consultations, etc.	1,404	3,195	4,522	739
Totals	3,802	9,609	11,045	10,423

7. PATHOLOGICAL DEPARTMENT.

	1928.	1929.	1930.	1931.
Autopsies Conducted	168	130	127	143
Specimens Examined	1.168	1,256	3,487	4,330

8. MENTAL WARDS.

	Male.			Female.			Total.		
	1929.	1930.	1931.	1929.	1930.	1931.	1929.	1930.	1931.
Patients under treatment on 1st January	64	60	78	98	111	120	162	171	198
Patients admitted during the year	205	220	165	181	196	169	386	416	334
Patients transferred from Asylum	—	1	2	1	—	—	1	1	2
Totals	269	281	245	280	307	289	549	588	534

ADMISSIONS.

	Male.			Female.			Total.		
	1929.	1930.	1931.	1929.	1930.	1931.	1929.	1930.	1931.
From Hospital Wards	65	83	34	43	58	43	386	417	336
From Outside	140	138	133	138	138	126			
On 3-day Order	140	137	130	129	130	126	269	267	256
On 14-day M.O.'s Order ..	63	84	35	43	60	43	103	144	78
On 14-day Justice's Order..	—	—	—	—	1	—	—	1	—

DISCHARGES.

	Male.			Female.			Total.		
	1929.	1930.	1931.	1929.	1930.	1931.	1929.	1930.	1931.
Discharged during the year	156	156	145	143	146	149	299	302	294
Released c/o friends	56	69	66	55	52	54	111	121	120
Transfers to Mental Hospital	39	38	36	52	31	36	91	69	72
Released to other Wards .	53	37	41	35	59	55	88	96	96
Released to Institutions ..	8	12	2	1	4	4	9	16	6
Totals	156	156	145	143	146	149	299	302	294
Deaths during the year....	32	48	35	11	16	35	43	64	70

TABLE SHOWING INCREASE OF WORK OF THE HOSPITAL SINCE 1914.

Year.	Admissions.	Births.	Discharges.	Deaths.	Average Daily No. of Patients.	Operations.
1914	2,728	12	2,135	591	749	149
*†1915	1,632	4	1,393	491	514	160
*†1916	1,330	—	941	353	439	175
*†1917	1,263	3	1,058	335	407	145
*†1918	1,402	16	1,104	391	303	144
*†1919	1,559	7	1,056	348	339	107
1920	2,516	64	1,736	451	689	163
1921	3,335	227	2,859	617	858	332
1922	3,720	263	3,272	745	888	395
1923	4,463	250	3,749	815	870	430
1924	4,416	182	3,742	922	811	523
1925	5,315	293	4,292	1,015	868	802
1926	5,471	366	4,839	903	943	882
1927	5,801	409	5,125	1,003	943	960
1928	6,430	559	5,545	926	960	1,076
*1929	7,477	673	6,936	1,141	918	1,403
*1930	7,583	685	7,150	1,038	969	1,807
*1931	7,963	812	7,762	1,093	919	2,004

†Partial Military occupation of the Hospital. Military patients are not included in the figures for these years.

*The Temporary Hospital at Eccles New Road Institution was fully occupied during these years. The figures given above do not include these patients, who numbered 86 throughout 1928-1931.

WORK OF THE HOSPITAL DURING 1931.

(The comparative figures for 1928–29–30 are given.)

STATISTICS.

1. GENERAL.

	1928.	1929.	1930.	1931.
Remaining under treatment at close of year	914	922	941	935
Admissions	6.430	7,477	7,583	7,963
Births	559	673	685	812
Totals	7.903	9,072	9,209	9,710
	s. d.	s. d.	s. d.	s. d.
Average cost per patient per week	*34 7	*36 2	*43 4	*45 4½
Discharged during the year	5,545	6,936	7,130	7,754
Deaths	926	1,141	1,038	1,093
Total	6.471	8,077	8,188	8.857
Mortality	11·7%	12·5%	10·9%	10·6%

2. SURGICAL OPERATIONS.

	1928.	1929.	1930.	1931.
(*a*) Number of Patients	1,074	1,403	1,807	2,004
(*b*) Number of Operations	1,191	1,535	1,931	2,119

Operators.

	1928.	1929.	1930.	1931.
Medical Superintendent	719	848	795	544
Resident Staff	350	550	793	1,231
Visiting Surgeons	5	4	219	247

Anæsthetists.

	1928.	1929.	1930.	1931.
Dr. Ghosh	613	679	503	508
Resident Staff	461	724	1.304	1,491
Visiting Anæsthetists	—	—	—	5

*For year ended 31st March in each case. The figures for 1930–1 include loan charges, those for 1928–9 do not.

Classification of Operations.

	1930.	1931.
1. Mouth (including teeth)	19	22
2. Abscesses (various)	69	71
3. Gynæcological	413	404
4. Tonsils and Adenoids	612	628
5. Bones and Joints	113	177
6. Stomach and Intestines	72	60
7. Liver and Gall Bladder	19	14
8. Appendix	217	262
9. Hernia	133	128
10. Genito-Urinary	47	71
11. Hæmorrhoids	44	47
12. Breast	9	15
13. Ear	11	10
14. Empyema	9	33
15. Nose	6	11
16. Eye	—	2
17. Brain	—	1
18. Thyroid Gland	—	2
19. Various	14	46
Totals	1,807	2,004

Among the 2,004 operations there were 455 abdominal sections, including 6 Cæsarians.

3. MATERNITY DEPARTMENT.

	1928.	1929.	1930.	1931.
Confinements	559	673	747	809
Maternal Deaths	8	7	5	9
Stillbirths	48	34	51	60
Infantile Deaths	19	17	12	19
Cæsarian Sections	12	4	19	6
Instrumental Deliveries	37	22	31	38
Albuminurias of Pregnancy	11	11	17	30
Hæmorrhages of Pregnancy	22	21	16	22
Bougie Inductions	9	7	29	28
Puerperal Fever	4	1	2	4
Plural Births—				
(*a*) Twins	—	—	4	5
(*b*) Triplets	—	—	—	1
Attendances at Ante-Natal Clinic	2,135	2,536	3,089	4,943
New Cases seen	—	659	762	755

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